

# The FORS1 catalogue of stellar magnetic field measurements<sup>\*</sup>

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Received 8 May 2015 / Accepted 3 August 2015

## ABSTRACT

**Context.** The FORS1 instrument on the ESO Very Large Telescope was used to obtain low-resolution circular polarised spectra of nearly a thousand different stars, with the aim of measuring their mean longitudinal magnetic fields. Magnetic fields were measured by different authors, and using different methods and software tools.

**Aims.** A catalogue of FORS1 magnetic measurements would provide a valuable resource with which to better understand the strengths and limitations of this instrument and of similar low-dispersion, Cassegrain spectropolarimeters. However, FORS1 data reduction has been carried out by a number of different groups using a variety of reduction and analysis techniques. Our understanding of the instrument and our data reduction techniques have both improved over time. A full re-analysis of FORS1 archive data using a consistent and fully documented algorithm would optimise the accuracy and usefulness of a catalogue of field measurements.

**Methods.** Based on the ESO FORS pipeline, we have developed a semi-automatic procedure for magnetic field determinations, which includes self-consistent checks for field detection reliability. We have applied our procedure to the full content of circular spectropolarimetric measurements of the FORS1 archive.

**Results.** We have produced a catalogue of spectro-polarimetric observations and magnetic field measurements for ~1400 observations of ~850 different objects. The spectral type of each object has been approximately classified. We have also been able to test different methods for data reduction in a systematic way. The resulting catalogue has been used to produce an estimator for an upper limit to the uncertainty in a field strength measurement of an early type star as a function of the signal-to-noise ratio of the observation.

**Conclusions.** While FORS1 is not necessarily an optimal instrument for the discovery of weak magnetic fields, it is very useful for the systematic study of larger fields, such as those found in Ap/Bp stars and in white dwarfs.

**Key words.** polarization – catalogs – stars: magnetic field

## 1. Introduction

During a full decade of operations, the FORS1 instrument on the ESO Very Large Telescope (VLT) collected a large number of magnetic field measurements of various kinds of stars. Together with the ESPaDOnS instrument on the Canada-France-Hawaii Telescope, and the MuSiCoS and NARVAL instruments on the 2 m Telescope *Bernard Lyot* of the Pic-du-Midi Observatory, FORS1 has been one of the workhorse instruments for observational studies of stellar magnetism.

Most, if not all, FORS1 field measurements have been published in the literature in dozens of different articles. Gathering them in a general catalogue would serve to obtain an overview (even though biased at the target selection phase) of the incidence of the magnetic fields in various kinds of stars. However, a catalogue compiled using published material would suffer from the lack of homogeneity in the way data have been treated. Furthermore, over time, new ideas for data reduction and quality checks have improved the reliability of FORS1 magnetic measurements, which calls for a revision of earlier data. We also note that the literature of FORS magnetic field measurements

includes a certain number of controversial detections. These problems have been thoroughly discussed by Bagnulo et al. (2012) and Bagnulo et al. (2013), and a discussion on the quality of the non-controversial FORS1 measurements of magnetic Ap stars was presented by Landstreet et al. (2014).

Here we publish our full catalogue of FORS1 measurements and explore experimental relationships between signal-to-noise ratios (S/N) and error bars achieved in stars with different spectral characteristics.

## 2. Instrument and instrument settings

FORS1 is a multi-purpose instrument equipped with polarimetric optics capable of performing imaging and low-resolution spectroscopy in the optical. It was attached to the Cassegrain focus of one of the 8 m units of the ESO VLT at the Paranal Observatory from the beginning of operations in 1999 until instrument decommissioning in March 2009. The instrument is described in Appenzeller & Rupprecht (1992) and Appenzeller et al. (1998).

### 2.1. Polarimetric optics

The polarimetric optics of FORS1 are arranged according to the optical design described by Appenzeller (1967). These

\* The full version of the catalog and the spectra are also available at the CDS via anonymous ftp to [cdsarc.u-strasbg.fr](http://cdsarc.u-strasbg.fr) (130.79.128.5) or via <http://cdsarc.u-strasbg.fr/viz-bin/qcat?J/A+A/583/A115>

† Deceased.

components are embedded in the overall optical train of the low-dispersion spectrograph for spectropolarimetric observations as follows. The Cassegrain focal plane of the telescope coincides with a mask containing 18 parallel sets of positionable slit jaws, which in simple spectroscopy allow multi-object spectroscopy of up to 18 objects simultaneously. For spectropolarimetry every second pair of slit jaws is masked to prevent beam overlapping in the camera (following the scheme proposed by Scarrott et al. 1983), so up to nine slits can be used at once. For most observations only a single slit was used, normally (but not always) centred on the optical axis of the telescope and of the spectrograph collimator (“fast” mode), but a number of spectropolarimetric observations using the multi-slit capability were carried out for studies of clustered objects (e.g. stars in an open cluster; “fims” mode). The slits are 22” long and can be adjusted to an arbitrary width.

The slit plane is followed by a dioptric collimator consisting of four UV-transmitting lenses, which takes each diverging beam from the slit plane and converts it into a parallel beam; the collimated beams from different slits have slightly different axes. For spectropolarimetry, these collimated beams are then passed through a rotatable super-achromatic quarter- or half-wave plate, followed by a beam-splitting Wollaston prism which produces two slightly diverging beams that have been divided into two orthogonal linear polarisation states. Each beam pair is analysed into polarisation states parallel to and perpendicular to the plane of the beam divergence produced by the Wollaston prism.

Following the polarimetric optics, the beams pass through a grism, and possibly an order-sorting filter, which disperses each beam into a spectrum. This is followed by a camera lens system (four lenses) that images the dispersed light from each polarised beam into a spectrum along one axis of the CCD detector. The two dispersed beams from each single slit are imaged on neighbouring CCD rows (in the case of multi-slit observations, the various pairs of beams are arranged parallel to one another on the detector). Spectropolarimetry is accomplished (in principle) by comparing the two beams from each single slit to form sum and difference spectra, from which a polarisation Stokes parameter can be deduced.

## 2.2. CCD and CCD readout

Two detectors have been used in the FORS1 instrument: a 2k × 2k SITE CCD (from the beginning of operations to end of February 2007), and a mosaic composed of two 2k × 4k MIT CCDs with a pixel size of 15 × 15 μm (from March 2007 until FORS1 decommissioning in March 2009). The upgrade to the MIT CCD was described by Szeifert et al. (2007).

The older SITE CCD had a pixel scale of 0.20”. For most of the observations obtained with it, the readout mode was set in “low gain” (to minimise the ADU count, and the risk of saturation of the ADC, at typically 2.8 e<sup>-</sup> per ADU<sup>1</sup>), and with a window of 400 or 500 pixel rows centred about the spectrum, to minimise CCD readout overheads, which represent a consistent fraction of the total overhead time necessary to achieve high S/N spectropolarimetric measurements.

<sup>1</sup> The conversion from ADU to electron is recorded in the fits-header keyword DET.OUT1.CONAD. However, in the QC1 database, the same quantity is called gain, while the QC1 entry CONAD gives the number of ADU per electron. Conversely, the fits-header keyword DET.OUT1.GAIN represents the conversion factor from electrons to ADUs, but corresponds to the entry CONAD in the QC1 database <http://www.eso.org/observing/dfo/quality/>

**Table 1.** Summary of the characteristic of the grisms and CCD most commonly employed for magnetic field measurements.

| Grism | CCD  | Wavelength range (Å) | Dispersion (Å px <sup>-1</sup> ) | Spectral res. (1’) |
|-------|------|----------------------|----------------------------------|--------------------|
| 600B  | SITE | 3470–5900            | 1.20                             | 780                |
| 600B  | MIT  | 3300–6210            | 0.70                             | 800                |
| 1200B | SITE | 3800–4960            | 0.61                             | 1420               |
| 1200B | MIT  | 3660–5110            | 0.43                             | 1420               |
| 1200g | SITE | 4290–5470            | 0.58                             | 1400               |
| 600R  | SITE | 5250–7420            | 1.08                             | 1160               |

The MIT detector, composed of two chips, had a 0.125” pixel scale, although in many observations a 2 × 2 rebinning was adopted for the readout. The quantum efficiency of the MIT CCD in the blue was higher than that of the SITE CCD, but the MIT CCD suffered from heavy fringing in the red. One of the advantages of the MIT CCD compared to the SITE CCD was its better cosmetic character. Figure 1 shows the raw image of a spectropolarimetric frame obtained in fast-mode with the MIT CCD. An internal reflection due to the Longitudinal Atmospheric Dispersion Corrector (LADC; Avila et al. 1983), visible in the blue edge of the CCD, has affected many observations.

Most of the observations were obtained in fast-mode, while only a fraction of the observations were obtained in multi-object mode, in which up to nine polarised spectra were obtained with the same frame series. No windowing option was offered for the operations with the MIT CCD, but its typical readout time was comparable to the readout time of the SITE CCD when windowed to 4–500 pixel rows.

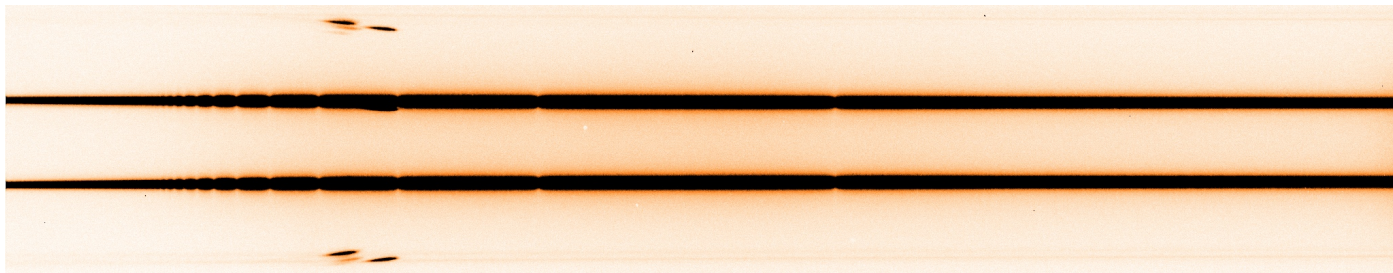
## 2.3. Grisms and slit width

In order of frequency of usage, most of the observations were carried out with grisms 600B (~1000 observations), 1200g (~100), 1200B (~100), 600R (~150), and only very rarely with grism 300V (~25) and 300I (2). The slit width was generally set to 0.4” or 0.5”, and very rarely >1”. The systematic use of narrow slits suggests that users wanted to have a high spectral resolution and did not care much about slit losses.

Table 1, obtained from the various editions of the FORS User manual, summarises the characteristics of these grisms. We note that grism 1200g was often used setting the slit close to the right edge of the instrument field of view. For that special setting, the observed wavelength interval was often offset to the blue to include more Balmer lines than in the configuration with the slit at the centre of the field of view. Grism 600R was used together with order separation filter GG 435, while 600B, 1200B and 1200g were always used with no filter.

## 2.4. Observing strategy

Most of the observations were obtained by setting the retarder waveplate at two position angles relative to the principal plane of the Wollaston prism, and obtaining multiple exposures for the purpose of maximising the S/N and allowing the computation of the null profiles. The most typical observing sequence was –45°, +45°, +45°, –45°, –45°, +45°, +45°, –45°. This beam-swapping technique allows one to minimise instrumental effects as explicitly suggested in the FORS1/2 manual, and thoroughly discussed, e.g. by Bagnulo et al. (2009). Bagnulo et al. (2013) have argued that swapping between only two positions



**Fig. 1.** Raw image of a polarisation spectrum obtained with the MIT CCD. On the blue (left) side reflections from the LADC are visible.

of the retarder waveplate may lead to more accurate results than cycling through all four positions in quadrature (i.e.  $-45^\circ$ ,  $45^\circ$ ,  $135^\circ$ ,  $225^\circ$ ) because the latter sequence is more likely to introduce small instrumental wavelength offsets between different exposures.

### 3. Data reduction

In this section we give a detailed description of how we have organised the archive data, and how we have treated them to measure the circular polarisation. We will adopt the same formalism used in Bagnulo et al. (2009), i.e.  $f^{\parallel}$  and  $f^{\perp}$  are the fluxes in the parallel and in the perpendicular beam, respectively,  $P_V = V/I$  is the circular polarisation normalised to the intensity, and  $N_V$  is the null profile (also normalised to  $I$ ), a quantity that was introduced by Donati et al. (1997), and, as described by Bagnulo et al. (2009), is representative of the noise of  $P_V$ .

We have always obtained  $P_V$  profiles from a series of one or more pairs of exposures. Each pair of exposures is composed of two frames obtained with the retarder waveplate at position angles separated by  $90^\circ$ . In Sect. 3.1 we explain the criteria followed to associate the frames retrieved from the archive in series of polarimetric measurements, which in fact may occasionally differ from the original plans of the observers.

For most of the observing series, it was also possible to calculate the null profile. For those cases in which the number of pairs of exposures  $N$  was odd and  $\geq 3$ , the null profile was obtained omitting the last pair of exposures. Obviously, with just one pair of exposure, the null profile was not calculated.

#### 3.1. Organising frames

##### 3.1.1. Scientific frames

As a first step we downloaded from the archive all frames obtained in spectropolarimetric mode with the quarter wave retarder in the optical beam. Then we grouped individual frames according to target pointing and observing night. Target identification was obtained via cross-correlation between RA and DEC keywords and SIMBAD catalogue, although we note that the fits-header keyword `OBS.TARG.NAME`, which is set manually by the observer, turned out to be sufficiently meaningful to identify the observed target in all but a very few cases. Occasionally, the RA and DEC of a target with the same `OBS.TARG.NAME` slightly changed within a consecutive series of exposures. We automatically ascribed a change of RA and DEC within  $0.5''$  as due to a change of the guiding star; for larger offsets we visually inspected the Stokes  $I$  profile to check whether the observations were in fact pointing to distinct components of a visual multiple system. In the (rare) cases in which the same target was acquired twice or more times during the same night after an interval of time longer than 1 h, the observations were split and treated as

independent field measurements. Most of the observation groups finally included *at least* two pairs of exposures, each pair with the retarder waveplate at position angles  $+45^\circ$  and  $-45^\circ$ . Some observing sets included an odd number of exposures. In many cases, this was because a short test exposure was obtained prior executing a long series, with the aim of deciding on the exposure time. These short exposures were then discarded. Sets including only one exposure were discarded.

The archive includes a few long time series of exposures that were performed within the same night on rapidly rotating or pulsating stars, and that were aimed at monitoring the target during its rotation or pulsation cycle. Example of these cases include the roAp stars observed within programme ID 69.D-0210 and 270.D-5023 (see Table 3), or the cataclysmic variables II Peg and V426 Oph observed with programme ID 079.D-0697 and 081.D-0670. In all these cases we had the choice whether to report the field values e.g. for each pair of frames, or to measure the field from the  $I$  and  $P_V$  profiles obtained adding up all individual frames. For simplicity, we decided to adopt the latter approach. The interpretation of these field measurement has to be given case by case. For instance, since in roAp stars there is no evidence of a variability of the magnetic field with stellar pulsation, the value averaged over several pulsation cycles is still a meaningful estimate of the actual star's longitudinal field at a given rotation phase. If a time series extends over an interval of time that represents a non negligible fraction of the star's rotation cycle, then the averaged measurement may not be representative of the actual field. Long time series may be identified by the number of frames used for field identification, which is an entry of our catalogue (see Sect. 6.2).

Any pair of frames where at least one beam in one exposure had an ADU count  $\geq 64\,000$  in at least 20 pixels was discarded as saturated. Exceptions to this rule were applied when all pairs of frames of a given series would be discarded, in which case we rescued those spectral regions that were not saturated. A second exception to this rule applies to the observations obtained in the context of the observing programme 073.D-0464. The CCD gain had been set to a very high value ( $3.5 \text{ ADU/e}^-$ ), with the consequence that the CCD reached the full well capacity before ADC saturation. For all frames obtained with that CONAD value we set the threshold for saturation to 40 000 ADUs instead of 64 000 ADUs.

##### 3.1.2. Calibration frames

For each set of observations, we retrieved from the archive the corresponding calibration frames, which included at least five bias frames, one arc lamp, and one flatfield, although for each set, we generally used five flatfield frames. Most calibration frames were obtained the morning after the night in which the scientific frames were obtained. Occasionally, wavelength



calibration frames were in fact obtained one or two days later or earlier than science data, and very rarely up to one or two weeks later or earlier. Time gaps between science data and calibration frames longer than one day were found more frequently for flat field calibrations. The reason is that acquiring high S/N flatfield calibrations in the blue with a narrow slit is very time consuming, especially with the polarimetric optics in. Hence, for operational reasons, sometimes flatfield calibrations had to be postponed by one or more days. We note that flatfield frames were used by the pipeline to identify the CCD regions occupied by spectra, but scientific frames were not divided by the flatfield.

### 3.2. Deriving the Stokes and null spectra

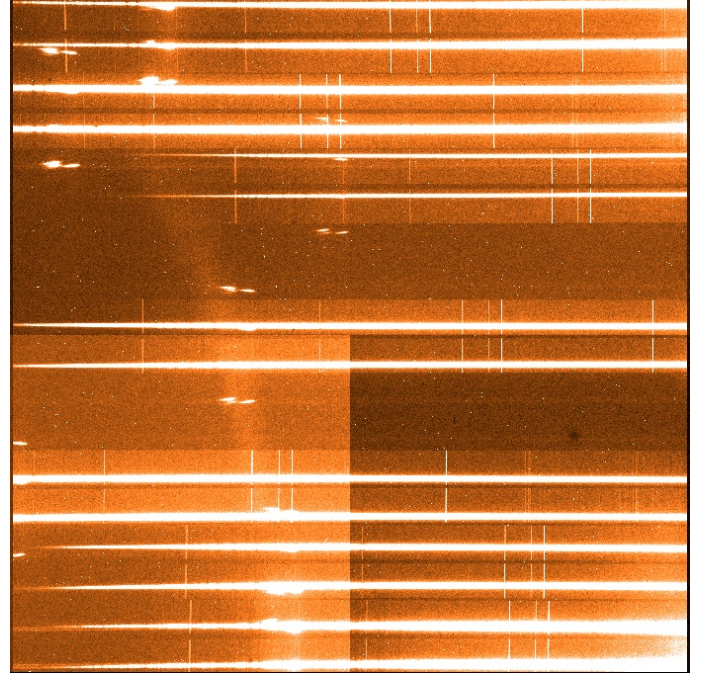
Each individual pairs of raw data were ingested into the FORS pipeline (Izzo et al. 2010) to perform bias subtraction, 2D-wavelength mapping of the frames, and flux extraction without flat-fielding the science data. Crucial for the data reduction was to avoid alignment with the sky lines. Many targets were very bright, and the adopted short-exposure times were not long enough to obtain high S/N sky lines. Furthermore, only one useful line is present in most of the settings. We found that the alignment of each frame to the sky lines would generate differential shifts that would be eventually responsible for spurious signals in the polarisation spectra (see Fig. 1 of Bagnulo et al. 2013).

We did not use the final pipeline products but we combined the various  $f^{\parallel}$  and  $f^{\perp}$  fluxes output by the ESO pipeline with a dedicated FORTRAN routine, and we obtained  $P_V$  and  $N_V$  profiles using the formulas of the difference methods given in Eqs. (A.2) and (A.7) of Bagnulo et al. (2009), which for convenience we reproduce below,

$$\begin{aligned} P_V &= \frac{1}{2N} \sum_{j=1}^N \left[ \left( \frac{f^{\parallel} - f^{\perp}}{f^{\parallel} + f^{\perp}} \right)_{\alpha_j} - \left( \frac{f^{\parallel} - f^{\perp}}{f^{\parallel} + f^{\perp}} \right)_{\alpha_j + 90^\circ} \right] \\ N_V &= \frac{1}{2N} \sum_{j=1}^N (-1)^{(j-1)} \left[ \left( \frac{f^{\parallel} - f^{\perp}}{f^{\parallel} + f^{\perp}} \right)_{\alpha_j} - \left( \frac{f^{\parallel} - f^{\perp}}{f^{\parallel} + f^{\perp}} \right)_{\alpha_j + 90^\circ} \right], \end{aligned} \quad (1)$$

where  $\alpha_j$  belongs to the set  $\{-45^\circ, 135^\circ\}$ . The reason for not using the final products of the pipeline was to experiment with different algorithms. For instance, the rectification that we use for  $P_V$  and  $\langle N_z \rangle$  (explained in Sect. 3.1 of Bagnulo et al. 2012) is carried out on the fluxes  $f^{\parallel}$  and  $f^{\perp}$ . This rectification is occasionally needed for those cases in which we found the  $P_V$  profile clearly offset from zero. This offset was found even when no circular polarisation of the continuum was expected, for instance in Herbig Ae/Be stars by Wade et al. (2007), and in several other cases in the course of the present work. A possible explanation is cross-talk from linear to circular polarisation, as discussed by Bagnulo et al. (2009). Obviously, cross-talk is expected to be a problem only with observations of linearly polarised sources, and it is far more significant for spectra acquired with a slitlet close to the edge of the instrument field of view (as in some series obtained in multi-object mode).

A slight but noticeable circular polarisation signal in the continuum was also found in some of FORS data for sources that are *not* linearly polarised, and that were observed in the centre of the field of view. For these cases, we should probably rule out cross-talk as a mechanism responsible for the observed continuum polarisation. A possible explanation could be that the ratio between the transmission functions in the perpendicular beam  $h^{\perp}$ , and the transmission function in the parallel beam,  $h^{\parallel}$ , is not constant as the retarder waveplate rotates at the different position angles. In either case (cross-talk from linear polarisation, or variability of the ratio  $h = h^{\perp}/h^{\parallel}$ ), the  $P_V$  profile should be rectified to zero for



**Fig. 2.** Raw image of polarisation spectra obtained with the SITE CCD on 2003-02-09. Seven out of nine slitlets are on stars member of an open cluster. The various reflections (presumably from the LADC) hamper the automatic extraction and recombination of the beams by the pipeline.

a more accurate field determination. Inspection of the null profile may help to discriminate between the two cases. If  $P_V$  is offset from zero because of cross-talk from linear polarisation (or simply because the source is intrinsically circularly polarised), the null profile will still be oscillating about zero. If the  $P_V$  offset is due to a non-constant ratio of the transmission functions, then also the null profile will be offset from zero.

In this work, the  $P_V$  and  $N_V$  profiles were rectified to zero as explained in Sect. 3.1 of Bagnulo et al. (2012).

An important difference concerns the treatment of data obtained in multi-objects spectropolarimetric mode. In most of the cases, the ESO pipeline failed to correctly associate the beams, probably due to the presence of strong reflections in the frames. Figure 2 shows an example of a frame obtained in multi-object mode, with seven slits centred on a target, and two slits closed. Some of the data obtained in multi-object mode (mostly those pertaining to a large open cluster survey) were “rescued” through manual data reduction (see Sect. 6.1.1).

Finally, in less than 3% of the observations obtained in fast mode, the pipeline delivered results of lower quality than expected. Most of these cases were successfully individually treated by performing a data reduction with IRAF tasks (Fossati et al. 2015).

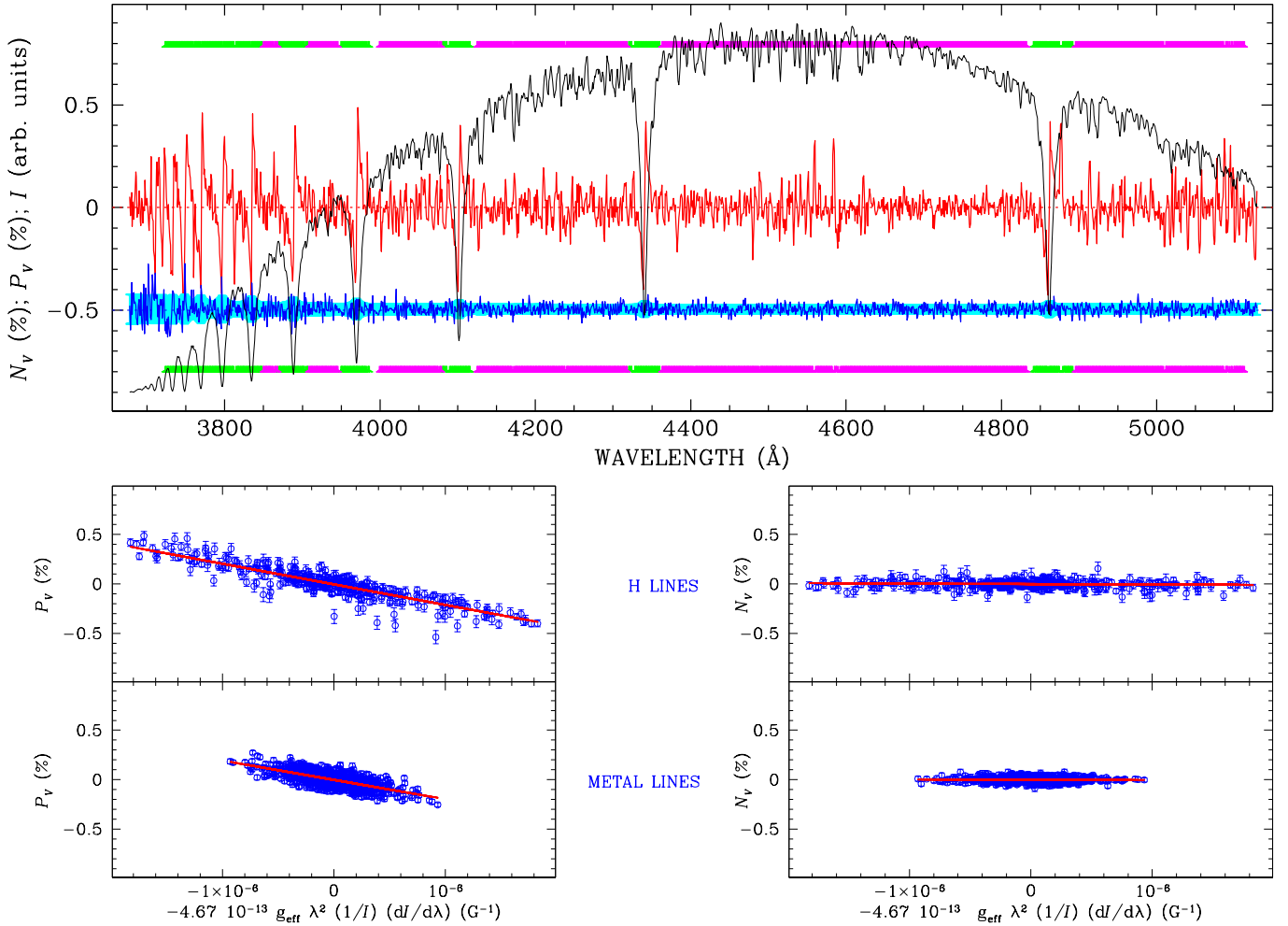
### 3.3. Magnetic fields determinations

FORS1 magnetic field measurements are obtained by exploiting the relationship

$$\frac{V}{I} = -g_{\text{eff}} C_Z \lambda^2 \frac{1}{I} \frac{dI}{d\lambda} \langle B_z \rangle, \quad (2)$$

where  $g_{\text{eff}}$  is the effective Landé factor, and

$$C_Z = \frac{e}{4\pi m_e c^2} \quad (\approx 4.67 \times 10^{-13} \text{ \AA}^{-1} \text{ G}^{-1}), \quad (3)$$



**Fig. 3.** An example of data reduction: the case of the Ap star HD 94660. In the *upper panel*, the black solid line shows the intensity profile, the shape of which is heavily affected by the transmission function of the atmosphere + telescope optics + instrument. The red solid line is the  $P_V$  profile (in % units) and the blue solid line is the null profile offset by  $-0.5\%$  for display purpose. Photon-noise error bars are centred around  $-0.5\%$  and appear as a light blue background. Spectral regions highlighted by green bars have been used to determine the  $\langle B_z \rangle$  value from H Balmer lines, and the magenta bars highlight the spectral regions used to estimate the magnetic field from metal lines. The *four bottom panels* show the best-fit obtained by minimising the  $\chi^2$  expression of Eq. (4) using the  $P_V$  profiles (*left panels*) and the  $N_V$  profiles (*right panels*) for H Balmer lines and metal lines as described. The field values ( $\langle B_z \rangle \sim -2000$  G and  $\langle N_z \rangle \sim 0$  G) are determined with a formal accuracy of  $\sim 40$  G for Balmer lines and  $\sim 25$  G for metal lines.

where  $e$  is the electron charge,  $m_e$  the electron mass,  $c$  the speed of light. We have adopted  $g_{\text{eff}} = 1.00$  for the H lines, and 1.25 as an average for the metal lines. Bagnulo et al. (2002) proposed to use a least-squares technique to derive the longitudinal field via Eq. (2), by minimising the expression

$$\chi^2 = \sum_i \frac{(y_i - \langle B_z \rangle x_i - b)^2}{\sigma_i^2}, \quad (4)$$

where, for each spectral point  $i$ ,  $y_i = P_V(\lambda_i)$ ,  $x_i = -g_{\text{eff}} C_Z \lambda_i^2 (1/I_i \times dI/d\lambda)_i$ , and  $b$  is a constant introduced to account for possible spurious polarisation in the continuum. The limitation of this method is that the spurious polarisation is assumed to be constant in wavelength, which in fact may not be true. The use of profiles rectified as explained in the previous Section probably makes the introduction of the constant  $b$  redundant. The numerical evaluation of the quantity  $1/I_i \times (dI/d\lambda)_i$ , which appears in the definition of the term  $x_i$ , was obtained as

$$\frac{1}{I_i} \left( \frac{dI}{d\lambda} \right)_{\lambda=\lambda_i} = \frac{1}{N_i} \frac{N_{i+1} - N_{i-1}}{\lambda_{i+1} - \lambda_{i-1}}, \quad (5)$$

where  $N_i$  is the photon count at wavelength  $\lambda_i$ .  $\langle B_z \rangle$  is calculated on points selected after visual inspection either as pertaining to H Balmer lines or to He and metal lines.

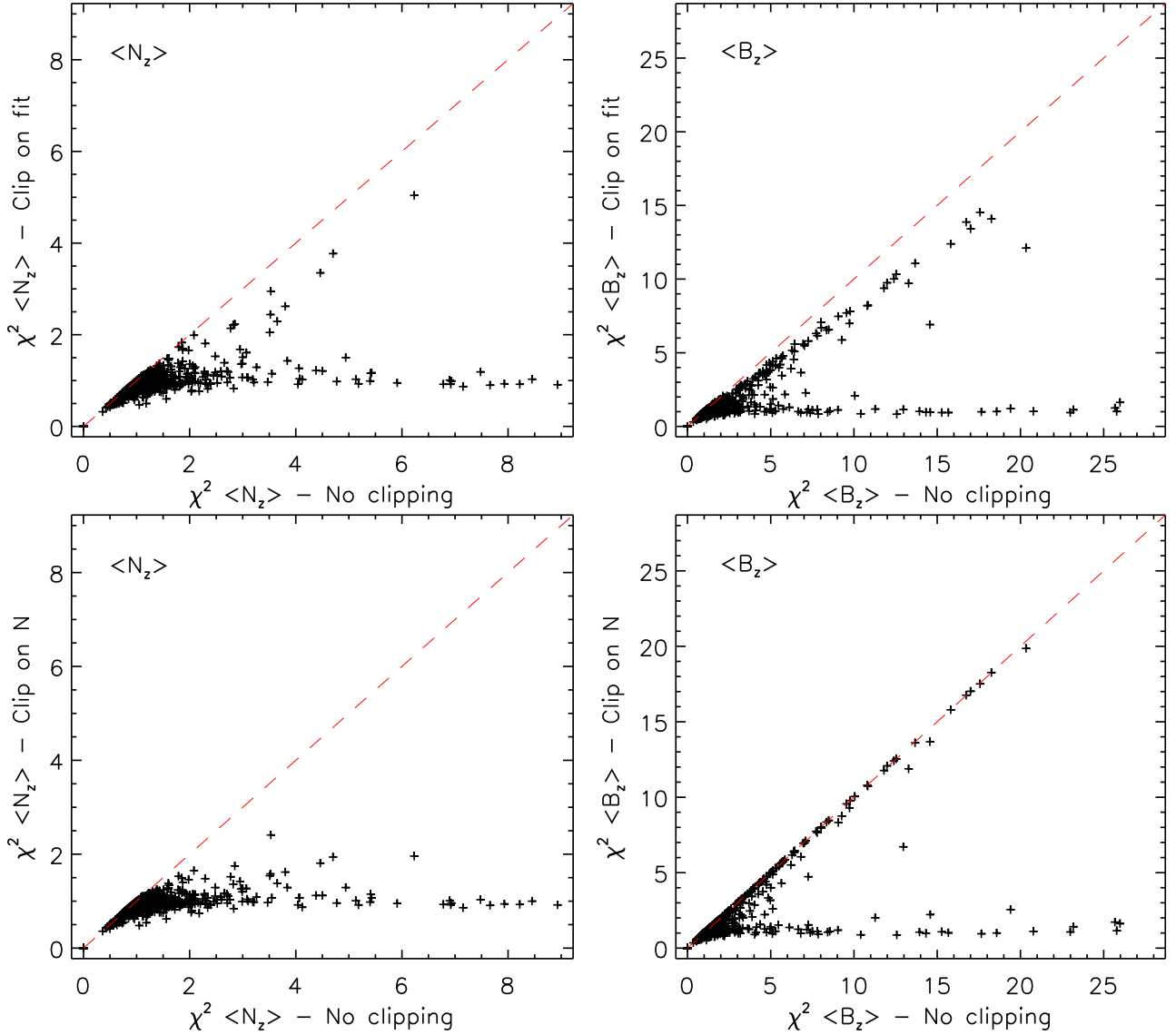
We systematically avoided emission lines and spectral lines clearly affected by non-photon noise (e.g. cosmic rays) and we generally avoided using spectral regions judged featureless by means of a visual inspection.

We also obtained null field  $\langle N_z \rangle$  in the same way as  $\langle B_z \rangle$ , but using the null profiles  $N_V$  instead of  $P_V$ .

Figure 3 illustrates in detail how field is estimated from  $P_V$  and  $N_V$  profiles.

### 3.3.1. Clipping algorithms

It is possible to improve the quality of the field determinations by applying one or more clipping algorithms. For instance, we can reject all spectral points for which the rectified null value exceeds  $3\sigma$  in absolute value (as proposed by Bagnulo et al. 2012, we call this method  $N$ -clipping), or we can reject all  $P_V$  and



**Fig. 4.** Reduced  $\chi^2$  adopting two different clipping algorithms for field estimates, versus the reduced  $\chi^2$  obtained without adopting any clipping algorithm.

$N_V$  points that are more than  $3\sigma$  away from the interpolating line  $y = \langle B_z \rangle x + b$  (we will call this method fit-clipping).

Another possible way to improve the precision measurement is to reject all points for which  $|x|$  is greater than a certain threshold, as Landstreet et al. (2012a) did. For instance, a point with  $|x| > 10^{-6} \text{ G}^{-1}$  in the spectrum of a white dwarf is probably due to a cosmic ray rather than to a real sharp spectral line, hence the motivation for this type of clipping.

Figure 4 shows the effects of some of these algorithms on the final error bars and on the reduced  $\chi^2$ , and makes the effect of their use evident.

We noticed that in several cases, a clipping on deviant  $N_V$  points would improve the  $\langle N_z \rangle$  best-fit, without having a significant impact on the quality of the fit used to determine  $\langle B_z \rangle$ . Conversely, the clipping on the best-fit was found to be more efficient. The reason is that spikes in  $P_V$  due to instrumental instabilities, for example, do not necessarily also appear in the null profiles, and vice versa (for a detailed discussion, see Bagnulo et al. 2012). We finally decided to implement a  $\sigma$  clipping on the best-fit, adopting the following specific algorithm (Bagnulo et al. 2006). As a first step, a best-fit is obtained by minimising

the expression of the  $\chi^2$  given by Eq. (4), considering all (pre-selected) spectral points. Then we calculate the median and the median absolute deviation (MAD) of the distances weighted by the photon-noise error between  $P_V$  (or  $N_V$ ) values and the best-fit. We then reject the  $P_V$  (or  $N_V$ ) points for which the weighted distance from the best-fit is  $> 3 \times 1.48 \text{ MAD}$ . The procedure is iterated until no points are rejected, but from the second iteration on we reject the points that have distance from the best fit larger than three times the reduced  $\chi^2$  value.

It is important to recognise that for a given dataset it is not possible to associate a uniquely defined longitudinal field estimate. Bagnulo et al. (2012) have thoroughly discussed how two equally reasonable data reduction procedures produce (slightly) different results. In some cases one may be able to decide that one procedure may be more appropriate than another one, but in most cases we are left with a certain degree of arbitrariness. Among steps that may affect the final results one should consider whether data are flatfielded or not, which method is adopted to extract spectra (average extraction or optimal extraction), if and how Stokes profiles are rebinned and/or rectified, how the derivative is calculated, if and how data are clipped, which spectral



regions are used for the field determination, and which effective Landé factor is adopted (the latter choice does not change the relative error measurement). It is not surprising therefore that from the same dataset, different field values are obtained by different authors, or even by the same authors in different epochs. In this respect, data reduction should be somehow considered as a source of noise that adds to photon-noise and instrument instabilities.

### 3.4. Error bars

Error bars of  $\langle B_z \rangle$  and  $\langle N_z \rangle$  are calculated using Eqs. (10) and (11) of Bagnulo et al. (2012). Briefly, they are calculated by propagating the photon-noise of the fluxes, and then multiplied by the square root of the reduced  $\chi^2$ . When a field is detected, the reduced  $\chi^2$  associated with the  $\langle B_z \rangle$  estimate tends to be higher than the reduced  $\chi^2$  associated with the  $\langle N_z \rangle$  estimate. As a consequence of the way they are calculated, the  $\langle B_z \rangle$  error bars are also systematically higher than  $\langle N_z \rangle$  error bars. Since our error bars are proportional to the square-root of the reduced  $\chi^2$ , field error bars are higher in strongly magnetic stars than in weak-field or non-magnetic stars. This phenomenon is not surprising, but is simply a natural consequence of the fact that Eq. (2) is only an approximation, and a lot of effects conspire to deviate from it, such as line blending, breaking of the weak-field approximation in metal lines, Lorentz forces and Stark broadening of the H lines. One could even conclude that a situation where the reduced  $\chi^2$  associated with  $P_V$  is substantially higher than the  $\chi^2$  associated with  $N_V$  represents already per se an indication that a magnetic field is present.

## 4. Precision of field measurements versus spectral signal-to-noise ratio

Our catalogue may be used for a number of statistical studies, some of them already discussed by Bagnulo et al. (2012).

An important question for planning observations and for evaluating their success is the extent to which the final magnetic field uncertainty of a measurement may be predicted from the expected S/N of the observation (as estimated for example using the exposure time calculator, or measured after the observation). We here use the catalogue to establish a quantitative link between field error bars and spectral S/N for stars of different spectral classes.

A global overview of the situation is shown in the upper left panel of Fig. 5. This panel shows the error bar  $\sigma_{\langle N_z \rangle}$  of the null field versus the peak S/N per Å measured in the spectrum for most of the main spectral classes present in the catalogue, using the value of  $\sigma_{\langle N_z \rangle}$  computed from the entire (useful) spectrum. The reason to choose  $\sigma_{\langle N_z \rangle}$  rather than  $\sigma_{\langle B_z \rangle}$  as abscissa is that, as discussed in Sect. 3.4, in stars with strong magnetic fields,  $\sigma_{\langle B_z \rangle}$  may be much higher than  $\sigma_{\langle N_z \rangle}$ , without being representative of the real detection threshold. In this panel the data do show a broad trend of decreasing  $\sigma_{\langle N_z \rangle}$  with increasing peak S/N, and we already see that to obtain measurements with  $\sigma_{\langle N_z \rangle} \lesssim 100$  G, it is necessary to obtain spectra with peak  $S/N \gtrsim 10^3$ .

The data also show a considerable scatter around the mean curve. Part of this scattering occurs because in some spectral classes a more precise field measurement is possible than in others (for example, field measurements are more precise in Ap/Bp stars with their rich line spectra than in O-type stars with

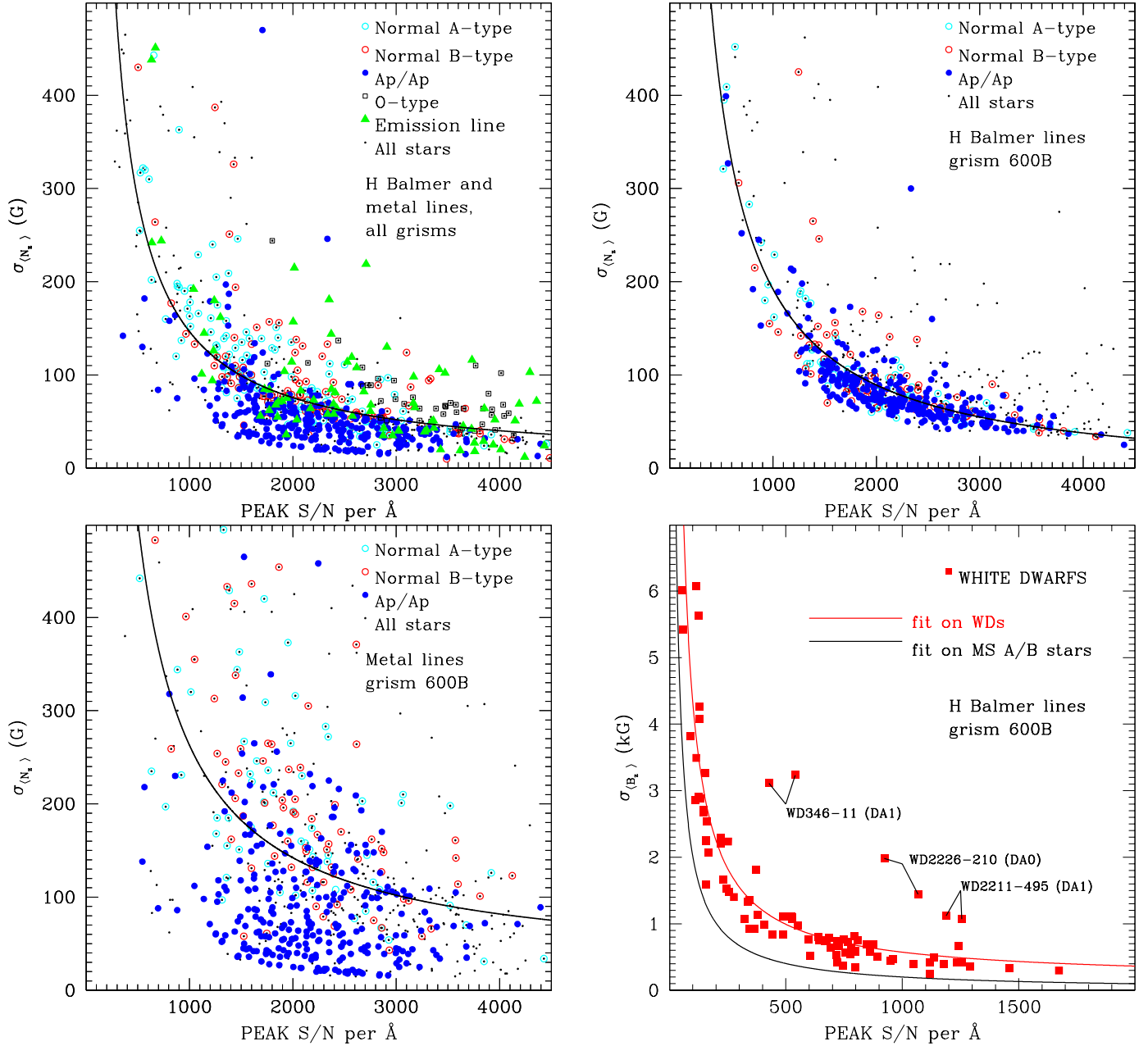
far fewer, weaker lines). Part of this scatter seems to be intrinsic to each main spectral class.

The scatter around the mean curve may be better understood by restricting the data used. In the upper right panel of Fig. 5, the uncertainty  $\sigma_{\langle N_z \rangle}$  is plotted again for normal A and B stars and for Ap/Bp stars, but using only observations with the 600B grism and only the Balmer line regions for the estimate of  $\sigma_{\langle N_z \rangle}$ . We see that the dispersion around the mean curve (which here is fitted to the data, with somewhat arbitrary omission of some outliers) is dramatically reduced. The tightness of the data around the mean curve reflects the fact that the Balmer line strength and shape do not change very much through this effective temperature range, and are not very different for Ap/Bp stars than for normal stars.

In contrast, the left bottom panel shows  $\sigma_{\langle N_z \rangle}$  as determined using only the metallic line regions and grism 600B. Here the scatter is much larger than in the preceding panel, showing the diversity of the metallic spectra in this sample. In this sample, the number of available spectral lines, and their typical depth and breadth, vary with spectral class and with projected rotational velocity, and some stars have many points in the spectra with steep slopes  $dI/d\lambda$ , while others have few or none. In turn this has a very strong effect on the horizontal distribution of points in correlation diagrams such as the lower panels of Fig. 3, with the consequence that for some stars the field is far more precisely determined from metal lines than for others. At the extremes,  $\sigma_{\langle N_z \rangle}$  from metal lines may be much less than half as large as that from the Balmer lines, or twice as large. Thus the scatter in the upper left panel arises essentially from the variations in the metallic line spectrum. For early-type stars, a robust estimation of the field uncertainty expected from the H lines as a function of S/N may be obtained, but the (potentially quite large) improvement in this basic  $\sigma_{\langle N_z \rangle}$  coming from the metallic lines cannot even be estimated without knowing in some detail the nature of the metallic line spectrum.

The right bottom panel of Fig. 5 illustrates the special case of DA white dwarfs. Here we have plotted  $\sigma_{\langle B_z \rangle}$  instead of  $\sigma_{\langle N_z \rangle}$  because with field measurements based only on completely unblended H lines (hardly any DA white dwarfs show lines of any other chemical element), all with the same Landé factor, no extra dispersion enters the evaluation of  $\sigma_{\langle B_z \rangle}$  compared to  $\sigma_{\langle N_z \rangle}$ . It is seen that field measurements of the DA white dwarfs follow a similar relation to the Balmer line relationship for main sequence A and B stars. However, for a given S/N, the field uncertainties are two or three times higher than for main sequence A and B stars. This larger uncertainty is essentially a consequence of the fact that the H lines of white dwarfs are several times broader than those of main sequence stars with similar temperature. Consequently, the slopes  $dI/d\lambda$  of various points in the spectrum of a white dwarf are smaller than in a A or B-type star. Since we have essentially  $\sigma_{\langle B_z \rangle} \propto \sigma_V (dI/d\lambda)^{-1}$  it is clear that for a given value of the S/N,  $\sigma_{\langle B_z \rangle}$  is larger in stars with small  $dI/d\lambda$  than in stars with higher  $dI/d\lambda$ . We also note that there are a few distant outliers in the white dwarf panel, because white dwarfs with very high or very low effective temperatures have very shallow Balmer lines that provide a very poorly constrained slope in Fig. 3.

Finally, we note that, with the exception only of the rapidly rotating G-type star FK Com, FORS1 was never used to observe cool stars. Clearly, from the higher density spectra of cooler stars we expect to measure fields with higher precision than in chemically normal early-type stars (but higher precision does not automatically translate into higher accuracy). Field measurements in FK Com have reached a precision of  $\sim 20$  G for a  $S/N \sim 3500$ , comparable to what is achievable from metal lines of Ap stars.



**Fig. 5.** Error bars versus the peak S/N for different kinds of stars. *Left top panel:* the error bars on the null field for all stars calculated using both H Balmer and metal lines. *Right top panel:* same as left panel, but considering only main sequence A- and B-type stars (including Ap/Ap stars) observed using grism 600B, and using H Balmer lines only. *Left bottom panel:* same as right top panel, but using metal lines only. *Right bottom panel:* the errors  $\sigma_{(B_s)}$  on the longitudinal field measured from H Balmer lines only in white dwarfs; the outliers are the hottest stars.

## 5. Stellar classification

The stars of the FORS1 archive cover a wide range of spectral types and evolution stages. Many are in some way distinctive or even peculiar. Here we provide a classification to facilitate the identification of all FORS1 measurements of a particular type of star.

In order to maximise the usefulness of these classifications, we went beyond the very inhomogeneous classes that would be obtained, for example, by simply taking the stellar classifications (often on the MK or Henry Draper systems) from the Simbad data archive. One reason for doing this is that the normal spectral classes reported in catalogues are also quite limited in their intent; most simply describe the morphological class to which an observed classification spectrum belongs. Spectral classification

often lacks important information about the nature or evolutionary state of the star, and usually does not contain any information about such important characteristics as pulsation properties.

Our classifications are intended to provide a brief summary of a number of different kinds of information about each of the stars observed. We include information about a) the general evolutionary state (pre-main sequence, main sequence, giant, etc.); b) the photospheric temperature; c) some specific distinctive features of the star such as chemical peculiarity, pulsation properties, presence of a disk, clear presence of a magnetic field in the star, etc. The system we have adopted is to provide a single entry for each observation in the general format: (evolution state):(effective temperature):(feature 1).(feature 2). ... (feature N).



The choice of classes for the first field (evolution) is a fairly obvious extension of the MK luminosity classes, supplemented by classes not covered by this system such as CP for the central star of a planetary nebula.

In the second field (effective temperature), we follow the MK classes whenever these provide a useful description of temperature (A5, B0, or simply A or B if the temperature class is rather uncertain). For white dwarfs we use the temperature classification system described by Sion et al. (1983), where the numeral following the spectral type DA, DB, etc., is the quantity  $50400/T_{\text{eff}}$  rounded to an integer. Sometimes we have simply provided a class which explains why we cannot give a simple temperature (such as CV for a cataclysmic variable). In the case of SB systems, we have usually given the temperature class of the brightest member.

In the third field (features), we have included a very wide variety of information, including chemical peculiarity (metallic-line Am star, helium-strong star), binary nature, evidence of circumstellar material (classical Be stars, shell stars), pulsation properties ( $\beta$  Cep stars), clear presence of a magnetic field, and/or other miscellaneous information.

The origins of the information contained in these classifications are very diverse. We have naturally made extensive use of the classes provided by the Simbad database, or more specific catalogues such as the revised Henry Draper catalogue of Houk and collaborators (Houk & Swift 1999). The white dwarf catalogue of McCook & Sion (1999) has been consulted extensively. In addition, we have often found useful information in the publications that have been based on the data re-analysed here. A large number of such articles are cited by Bagnulo et al. (2012).

For a few of the spectra in the catalogue, literature spectral classifications appeared to be inconsistent with the observed  $I$  spectra. Furthermore, two observing programmes measuring magnetic fields of open cluster stars (68.D-0403 and 70.D-0352) made extensive use of the fims multi-object observing mode in order to observe as large a sample of stars as possible. In these multi-object observations, stars other than the one or two explicitly chosen targets were simply selected from the nearby field. Such stars often have no published classifications at all, even if they have cluster numbers.

For cases of dubious or missing spectral classification in the catalogue, we tried to assign spectral classes based on the observed intensity spectra. We did this by visually comparing each observed spectrum with a grid of spectra of stars of known spectral type, also taken from the catalogue. For B and A stars classification was usually successful, using normal spectral classification criteria such as line strength ratios of lines of H, He and Ca K. We could also often use the width of Balmer lines to assign evolutionary state. The precision of our spectral classes is estimated to be about  $\pm 2$  or 3 spectral subclasses, probably about the same as the precision of classes taken somewhat randomly from the literature. However, this procedure usually failed, or produced only very imprecise classification for late type stars, for which very few stars of known spectral type are available in the catalogue. We were also usually unsuccessful in assigning spectral classes to stars for which only spectra around  $H\alpha$  are available in the catalogue, as this region lacks the required variety of clear classification indicators.

The full list of symbols and abbreviations adopted for our classifications are given in Table 2. For example, a main sequence A9V star that is a  $\delta$  Sct variable and a member of a spectroscopic binary system will be classified as MS:A9:DSCT.SB.

## 6. Description of the catalogue

The FORS1 archive of circular spectro-polarimetric data includes about 1500 observing series, for a total of more than about 12000 scientific frames, obtained within the context of 59 observing programmes, using more than 2000 h of granted telescope time and about 340 h of shutter time<sup>2</sup>. The content of the FORS1 archive is presented here in the form of three printed tables, one catalogue online, and one database of intensity spectra<sup>3</sup>. In the following we describe this material.

### 6.1. List of the observing programmes

Table 3 is the list of the IDs and PIs of the observing programmes, and their general characteristics (i.e. the amount of telescope time granted, and the scope of the programme). Programme IDs may be readily associated to published papers and to the abstract of the proposals by entering it into the online form<sup>4</sup>. Table 3 is organised as follows: Col. 1 gives the programme ID and Col. 2 the last name of the Principal Investigator of the observing programme. Column 3 is a brief description of the scope of the observing programme and nature of the observed targets. Column 4 gives the amount of time allocated to the proposal. Column 5 is the most frequently used grism in that programme.

#### 6.1.1. Comments to individual programme IDs

Programmes 060.A-9203 and 060.A-9800 were not granted to users but belonged to Paranal SCIOPS team for ordinary calibrations and for technical tests, including some polarimetric tests on magnetic stars. For instance, the first observation of a magnetic Ap star (HD 94660), used as a proof-of-concept for the method of Sect. 3.3 (Bagnulo et al. 2002), was made on 2001-03-23 under programme ID 060.A-9203 (although telescope time was officially granted as DDT).

This catalogue contains little or no reduced data for the programmes IDs 65.H-0293 (PI = Jordan), 65.P-0701 (PI = Wagner), 66.D-0128 (PI = Appenzeller), 072.D-0736 (PI = O'Brien), 072.D-0119 (PI = Marsh), 073.D-0322 and 082.D-0695 (PI = Reinsch) and 277.D-5034 (PI = Greiner), for various different reasons, e.g. because data were taken in multi-object mode (073.D-0322, 082.D-0695) and could not be reduced by the automatic pipeline, or because the S/N was extremely low (e.g. 277.D-05034). Most of data obtained under programme IDs 080.D-0521 (PI = Kawka) and 082.D-0736 (PI = Vornanen) could not be used to measure  $\langle B_z \rangle$  through the least-square technique of Sect. 3.3, but intensity spectra are still made available (see Sect. 6.4).

Programme IDs 68.D-0403, 70.D-0352, 073.D-0498, 272.D-5026 and 074.D-0488 (PI = Bagnulo) do contain many observations obtained in fims mode, and were not properly reduced by our pipeline. However, it was possible to re-use an older data reduction carried out with IRAF routines by Bagnulo et al. (2006). From this old data reduction we took the extracted wavelength calibrated beams and we recombined them to obtain the  $P_V$  and

<sup>2</sup> The top right panel of Fig. 6 of Bagnulo et al. (2012) shows that a large fraction of FORS1 magnetic field measurements were obtained with very short exposure times, in some cases even less than 1 s. As a consequence, the execution time of many observing programmes were dominated by overheads.

<sup>3</sup> Available at <http://star.arm.ac.uk/FORS/>

<sup>4</sup> Available at [telbib.eso.org](http://telbib.eso.org)

**Table 2.** Symbols used in classification entry to the catalogue of FORS1 magnetic field measurements.

| Symbol                                   | Description  |
|--|--|
| First field: evolution state             |  |
| PM                                       | (probable or certain) pre-main-sequence star   |
| MS                                       | main sequence star, MK luminosity class IV or V  |
| GS                                       | giant star, MK luminosity class III  |
| SG                                       | supergiant star, MK luminosity class I or II   |
| SD                                       | (hot) subdwarf   |
| CP                                       | central star of planetary nebula   |
| WD                                       | white dwarf  |
| ??                                       | star of unknown evolutionary state   |
| Second field: temperature class          |  |
| A5, B9, etc.                             | temperature (spectral) class according to MK or HD system                                  |
| DA7, DB3, etc.                           | temperature class according to white dwarf system of <a href="#">Sion et al. (1983)</a>    |
| CV                                       | cataclysmic variable system (nova, dwarf nova, etc.)                                       |
| Third field: distinctive characteristics |  |
| AM                                       | metallic-line (Am) star  |
| AP                                       | star of the Ap (peculiar A) spectroscopic class  |
| BCEP                                     | early B-type $\beta$ Cep pulsating star  |
| CSD                                      | star showing evidence of a circumstellar debris disk                                       |
| CV                                       | cataclysmic variable system (nova, dwarf nova, etc.)                                       |
| DSCT                                     | $\delta$ Sct star, a late A-type pulsating main sequence star                              |
| E  | presence of emission lines, especially in H $\alpha$                                       |
| EB                                       | eclipsing binary system  |
| FKCOM                                    | FK Com variable (rapidly rotating cool giant)  |
| FLS                                      | flare star   |
| FP                                       | O stars with the Of?p peculiarity  |
| HES                                      | a star showing abnormally strong He lines for its effective temperature                    |
| HEW                                      | a star showing abnormally weak He lines for its effective temperature                      |
| HGMN                                     | a late B-type star showing the HgMn class of spectral peculiarities                        |
| HIPM                                     | a high proper motion star  |
| LPS                                      | standard of linear polarisation  |
| M  | a star in which a magnetic field has definitely been detected (not necessarily with FORS1) |
| NOV                                      | nova   |
| P  | peculiar (often chemically peculiar)   |
| ROAP                                     | rapidly oscillating Ap star (roAp star)  |
| SB                                       | spectroscopic binary system  |
| SPB                                      | slowly pulsating B star  |
| V  | variable   |
| XRB                                      | X-ray binary system  |

$N_V$  spectra, and measured the  $\langle B_z \rangle$  and  $\langle N_z \rangle$  values as explained in Sects. 3.2 and 3.3.

## 6.2. The entries of the catalogue

The general catalogue includes the following entries; the number in parentheses correspond to the fields (columns) of the catalogue.

- 1–7) The coordinates RA and Dec of the frame fits-headers. These may not correspond exactly to Simbad coordinates, but in the large majority of the cases they allow an unambiguous identification of the target.
- 8) The star identifier.
- 9) The star classification as explained in Sect. 5.
- 10) The programme ID.
- 11) The epoch of the observations (at the mid-time of the exposure series), expressed in Modified Julian Date.
- 12–13) Same as 11), but expressed in calendar date and UT.
- 14) The total exposure time in seconds.
- 15) The number of frames used for the field determination.
- 16) The grism used.
- 17) The slit width in arcsec.
- 18) The spectral resolution measured on the arc lamp in a spectral line situated approximately in the spectrum centre.
- 19–20) The wavelength spectral range (blue and red ends, in Å).
- 21) The S/N per Å calculated as the median of the 100 highest pixels of the spectrum (but excluding emission lines).
- 22) The centre of the wavelength interval where the S/N peaks.
- 23–25) The mean longitudinal field measurement  $\langle B_z \rangle$  from Balmer lines with its error bar, and the corresponding reduced  $\chi^2$ ; if H Balmer lines are absent in the spectrum, the field value and its error bar are set to zero.
- 26–28) Same as 23–25) for the field measured from the null profiles,  $\langle N_z \rangle$ . For the observing series including only one pair of exposures, null fields values and their error bars are set to zero.
- 29–34) Same as 23–28) for metal lines; if metal lines are absent in the spectrum, all these columns contain zero values.
- 35–40) Same as 23–28) for both H Balmer and metal lines; if H Balmer lines are absent in the spectrum, these columns contain the same values as Cols. 29–34). Conversely, if metal lines are absent from the spectrum, these columns contain the same values as Cols. 23–28).

**Table 3.** Observing programmes carried out with FORS1 in circular spectropolarimetric mode.

| PR. ID     | PI          | Targets                            | Time      | Year | Grism |
|------------|-------------|------------------------------------|-----------|------|-------|
| 60.A-9203  | SCIOPS      | (engineering ID)                   |           |      |       |
| 60.A-9800  | SCIOPS      | (engineering ID)                   |           |      |       |
| 65.H-0293  | Jordan      | WD LP 790                          | 6 h       | 2000 | 150I  |
| 65.P-0701  | Wagner      | Blazars                            | 2 N       | 2000 | 150I  |
| 66.D-0128  | Appenzeller | Polar EF Eri                       | 0.7 N     | 2000 | 600B  |
| 67.D-0306  | Bagnulo     | WD 1953–011 (monitoring)           | 13 h      | 2001 | 600R  |
| 68.D-0403  | Bagnulo     | Open cluster Ap stars              | 2 N       | 2002 | 600R  |
| 69.D-0210  | Hubrig      | Time series roAp stars             | 1n        | 2002 | 600B  |
| 269.D-5044 | Hubrig      | Mini-survey of roAp stars          | 10 h      | 2002 | 600B  |
| 70.D-0259  | Jordan      | Weak fields in white dwarfs        | 24 h      | 2003 | 600B  |
| 70.D-0352  | Bagnulo     | Open cluster Ap stars              | 3 h + 2 N | 2003 | 600B  |
| 270.D-5023 | Kurtz       | Time series of roAp star HD 101065 | 4 h       | 2003 | 600B  |
| 71.D-0308  | Hubrig      | Evolution of Ap stars in the field | 20 h      | 2003 | 600B  |
| 072.D-0119 | Marsh       | Polar ES Cet                       | 1 N       | 2003 | 300V  |
| 072.C-0447 | Bagnulo     | Herbig stars                       | 3HN       | 2004 | 600B  |
| 072.D-0089 | Jordan      | Planetary Nebulae                  | 7 h       | 2003 | 600B  |
| 072.D-0290 | O'Toole     | Hot subdwarfs                      | 1 N       | 2004 | 600B  |
| 072.D-0377 | Hubrig      | Evolution of Ap stars in the field | 30 h      | 2004 | 600B  |
| 272.C-5063 | Bagnulo     | Herbig stars                       | 4.5 h     | 2004 | 600B  |
| 073.D-0322 | Reinsch     | Zeeman tomography of WDs           | 2 h + 3 N | 2004 | 300V  |
| 073.D-0356 | Jordan      | Weak fields in White Dwarfs        | 24 h      | 2004 | 600B  |
| 073.D-0464 | Hubrig      | Evolution of Ap stars in the field | 30 h      | 2004 | 600B  |
| 073.D-0466 | Hubrig      | SLP B and Bp stars                 | 30 h      | 2004 | 600B  |
| 073.D-0498 | Bagnulo     | Open cluster Ap stars              | 30 h      | 2004 | 600B  |
| 073.D-0516 | Bagnulo     | Cool White Dwarfs                  | 42 h      | 2004 | 600B  |
| 073.D-0736 | O'Brien     | X-rays binary                      | 6 h       | 2004 | 300V  |
| 274.D-5025 | Mason       | Nova V574 Pup                      | 7.1 h     | 2004 | 300V  |
| 272.D-5026 | Bagnulo     | Open cluster Ap stars              | 4.5 h     | 2005 | 600B  |
| 074.C-0442 | Bagnulo     | Herbig stars                       | 3 N       | 2004 | 600B  |
| 074.C-0463 | Yudin       | Vega-like stars                    | 8 h       | 2005 | 1200g |
| 074.D-0488 | Bagnulo     | Open cluster Ap stars              | 4 h + 2 N | 2005 | 600B  |
| 075.D-0289 | Jordan      | Planetary nebulae                  | 3 N       | 2005 | 600B  |
| 075.D-0295 | Briquet     | Pulsating B-type stars             | 30 h      | 2005 | 1200g |
| 075.D-0352 | O'Toole     | Hot subdwarfs                      | 19 h      | 2005 | 600B  |
| 075.D-0432 | Schnerr     | O-type stars                       | 17 h      | 2005 | 600B  |
| 075.D-0507 | Yudin       | Be-type stars                      | 12 h      | 2005 | 1200g |
| 076.D-0435 | Berdyugina  | White dwarfs                       | 1 N       | 2005 | 600B  |
| 077.D-0406 | Yudin       | Be-type stars                      | 10 h      | 2006 | 600B  |
| 077.D-0556 | Schmitt     | X-ray A-type stars                 | 1 N       | 2006 | 600B  |
| 277.D-5034 | Greiner     | Cataclysmic variable V504 Cen      | 2 h       | 2006 | 600B  |
| 078.D-0140 | Briquet     | Pulsating B-type stars             | 16 h      | 2007 | 600B  |
| 078.D-0330 | Hubrig      | Hanle effects in high-mass stars   | 18 h      | 2007 | 600R  |
| 278.D-5056 | Briquet     | $\theta$ Car                       | 1 h       | 2007 | 1200B |
| 079.D-0240 | Mathys      | roAp stars                         | 28 h      | 2007 | 600B  |
| 079.D-0241 | Briquet     | B-type stars                       | 2 N       | 2007 | 600B  |
| 079.D-0549 | Karitskaya  | Cyg X-1/HDE226868                  | 7 h       | 2007 | 1200B |
| 079.D-0697 | Jeffers     | II Peg& V426 Oph                   | 2 N       | 2007 | 1200B |
| 279.D-5042 | Hubrig      | $\nu$ Sgr                          | 2.5 h     | 2007 | 1200B |
| 080.D-0170 | Mathys      | HD75049                            | 6.2 h     | 2008 | 600B  |
| 080.D-0383 | McSwain     | Be-type stars                      | 2 N       | 2008 | 600B  |
| 080.D-0521 | Kawka       | White dwarfs                       | 74 h      | 2008 | 600B  |
| 081.D-2005 | Barrera     | HD 182180                          | 2 h       | 2008 | 1200B |
| 280.D-5075 | Korhonen    | G-type giant star FK Comae         | 7.5 h     | 2008 | 600B  |
| 380.D-0480 | Yudin       | Be-type star $\lambda$ Eri         | 2H        | 2007 | 1200B |
| 081.C-0410 | Cure        | Herbig stars                       | 2 N       | 2008 | 600B  |
| 081.D-0670 | Jeffers     | II Peg & V426 Oph                  | 2 N       | 2008 | 1200B |
| 381.D-0138 | Karitskaya  | Cyg X-1/HDE226868                  | 10 h      | 2008 | 1200B |
| 082.D-0342 | Kolenberg   | RR Lyrae stars                     | 2.5 N     | 2008 | 1200B |
| 082.D-0695 | Reinsch     | Accreting white dwarfs             | 3 N       | 2008 | 300V  |
| 082.D-0736 | Vornanen    | White dwarfs                       | 2 N       | 2008 | 600B  |
| 282.C-5041 | Hubrig      | Z CMa                              | 2.7 h     | 2008 | 1200B |



41) The name of a downloadable gzipped tar file that contains the intensity spectra described in Sect. 6.4.

There exist catalogue entries that do not include magnetic field determinations at all, which correspond to cases where the field is unmeasurable either because the spectrum has only (non-photospheric) emission lines, or because the spectrum is featureless, or because it is formed outside of the Zeeman regime, and Eq. (2) does not provide its estimate. These entries are kept in the catalogue because it is still useful to know that a certain observing series has not been overlooked at. Furthermore the intensity spectrum is potentially useful and available in the archive of reduced data, and a catalogue entry helps to identify the essential information about the observations.

### 6.3. Abridged printed version of the catalogue

Table 5 is an abridged version of the catalogue of the FORS magnetic field measurements and includes only the star name, the stellar classification, the MJD of the mid of the observation, the grism used, the  $\langle B_z \rangle$  and  $\langle N_z \rangle$  values in G with their error bars and corresponding reduced  $\chi^2$ . When no magnetic field measurement is available, a blank is left in the corresponding columns.

The last column of this Table is a three-character flag that helps to identify possible field detection. Each character reflects the results of the analysis carried out on the H Balmer lines, on the metal lines, and on the combination of the two sets of lines, respectively. An “n” means that the absolute field values was  $< 3\sigma_{\langle B_z \rangle}$ , a “d” corresponds to the cases where  $3 \leq |\langle B_z \rangle|/\sigma_{\langle B_z \rangle} \leq 5$ , and a “D” when the field was detected at more than  $5\sigma$  level. The reason we assign a weaker detection certainty (d) to detections at the 3 to  $5\sigma$  level than we do to detections at higher significance (D) is because of the problem of occasional outlier detections that has been clearly identified in FORS1 data (Bagnulo et al. 2012).

Our final assessment whether the star is really magnetic or not is given by the “M” flag in the classification. Since this assessment is often also based on measurements obtained with other instruments and on other observing dates, it is quite possible that a star classified as magnetic in Col. 2 has a flag “nnn” in the last column. Conversely, “d” flags (or even “D” flags) may be associated with stars that have not received the classification of magnetic stars in Col. 2. This may happen for three reasons: either we think that the detection might be real, but that it needs be supported by further data (e.g. the case of the M giant star HD 298045), or we believe that the signal we measure is spurious, and/or the field detection has not been confirmed by further observations obtained with FORS1 itself or other instruments. Most of these spurious or dubious cases have been discussed by Bagnulo et al. (2012).

Finally, a dash (“-”) in the last column means that the corresponding part of the spectrum was not used to measure the field (in fact, there are cases where no field measurement was attempted, as explained in Sect. 6.2).

### 6.4. The archive of intensity spectra

In the course of measuring the magnetic field strength from the circularly polarised spectra of FORS1, we have obtained the (uncalibrated) intensity ( $I$ ) spectra. Since FORS is a single order spectrograph, these  $I$  spectra, even without flux calibration, provide potentially useful profiles of broad spectral lines such as those of H and He that are difficult to recover with accuracy from high-dispersion spectra derived from cross-dispersed

instruments. The  $I$  spectra also illustrate clearly the overall shape of the detected spectral flux (convolved with the instrument+telescope transmission function) of each star observed. Because these  $I$  spectra could potentially be useful for a wide range of projects, we have made them available at CDS.

In the ESO archive, each frame is identified by a name that refers to the instrument and the instant when an exposure was started. In case of FORS1 data:

`FORS1.YYYY-MM-DDThh-mm-ss.xxx.fits`

where YYYY-MM-DD refers to the year, month and day of the observation, and hh-mm-ss.xxx the hour, minute and second (with millisecond precision) when shutter was opened for the observation (UT). We note that files produced until the end of period 67 were called `FORS.YYYY-MM-DDThh-mm-ss.xxx.fits`.

In our context it is useful to group together all the frames of the observing series that have been used to obtain a certain magnetic field measurement. Therefore, for each entry of our catalogue, we have produced a tarball named `STARNAME_PID_III.X-JJJJ_MJD_nnnnn.mmm.tar` where STARNAME is the star name, III.X-JJJJ is the programme ID and nnnnn.mmm is the Modified Julian Date of the observation. Very few objects observed in multi-object mode could not be identified (see Bagnulo et al. 2006). In these cases, instead of STARNAME we used `RAhh_mm_ss.s` where hh:mm:ss.s is the RA of the centre of the slit read in the fits-headers. This way, each tarball is unambiguously associated with each entry of the catalogue and Table 5.

Each tarball includes an ASCII file with the same name as the tarball itself (without the extension .tar) which contains the list of original frames used for the field determination. In this file, each filename is followed by: the exposure time in seconds of each individual frame (fits-header keyword `EXPTIME`); the position angle of the retarder waveplate with respect to the parallel beam of the Wollaston prism (fits-header keyword `INS.RETA4.ROT`)<sup>5</sup>; the exposure number, and the total number of exposures in each OB template, and the OB number, given by fits-keywords `NEXP EXP` and `OB`, respectively. The file name list is followed by two lines with the grism name, the slit width, the spectral resolution, the detector name and the readout mode. An example of such file is given in Table 4.

The tarball includes an ASCII file for each frame of the observing series used to determine  $\langle B_z \rangle$ . This file is identified by the same name as the original frame archive name, having replaced the extension .fits with .prof. In case of observations obtained in multi-object mode, the name of the .prof file refers also to the slitlet number where the star was centred, e.g., `FORS1.YYYY-MM-DDThh-mm-ss.xxx_Syy.fits`, where yy may be 02, 04, ..., 18. Each of these .prof files have three columns: wavelength in Å (Col. 1), flux and flux error in ADUs (Cols. 2 and 3, respectively).

## 7. Comparison with previously published field values

It is of interest to compare the  $\langle B_z \rangle$  values obtained from the current suite of reduction programs with results published in the literature and obtained from the same datasets.

<sup>5</sup> Older FORS1 data did not include this keyword, in which case it was calculated as the difference between the fits-header keywords `ADA.POSANG` and `INS.RETA4.POSANG` which give the position angles of the instrument and of the retarder waveplate, respectively, with respect to the north celestial meridian.

**Table 4.** Example of the content of the input file STARNAME\_PID\_III.X-JJJJ\_MJD\_nnnnn.mmm: here we consider HD190073\_PID\_081.C-0410\_MJD\_54609.411 (the file structure is explained in the text).

|   |     |       |     |           |
|---|-----|-------|-----|-----------|
| FORS1.2008-05-23T09:36:34.552.fits          | 180 | 315.0 | 1/8 | 200176637 |
| FORS1.2008-05-23T09:41:07.012.fits          | 200 | 45.0  | 2/8 | 200176637 |
| FORS1.2008-05-23T09:45:27.830.fits          | 250 | 45.0  | 3/8 | 200176637 |
| FORS1.2008-05-23T09:51:10.408.fits          | 250 | 315.0 | 4/8 | 200176637 |
| FORS1.2008-05-23T09:56:21.302.fits          | 250 | 315.0 | 5/8 | 200176637 |
| FORS1.2008-05-23T10:02:03.889.fits          | 250 | 45.0  | 6/8 | 200176637 |
| GRIS_600B 0.40 1797                         |     |       |     |           |
| Norma III 4136 × 4096 1 × 1 200Kps/low_gain |     |       |     |           |

**Notes.** From the file list one can infer that last two exposures of the observing series have been dropped (either because the observing series was interrupted, or because the frames were discarded due to some problem, e.g. saturation).

### 7.1. Data on magnetic Ap/Bp stars

A first comparison may be made with the Ap star field strength values obtained for open cluster Ap/Bp candidates that are described by Bagnulo et al. (2006). These measurements were made using a combination of Balmer and metallic line in order to maximise sensitivity to weak fields in these often faint stars. Field measurements made for this observing programme are found to have uncertainties that are rather similar to those in the present catalogue. For stars in which no field was detected, in general the result is still a null detection, although the actual value reported has often changed by an amount of the order of  $1\sigma$  or even more, while still remaining a null detection. For stars with easily detectable fields, the values of the uncertainties are not greatly different from the present data, but the actual  $\langle B_z \rangle$  values reported may differ from the current ones by 10 or even 20%.

Another comparison may be made with the data used by Kochukhov & Bagnulo (2006) to study the evolution of magnetic field strength with age among bright field Ap/Bp stars. These data differ from the open cluster field strengths in that the stars observed are generally a few magnitudes brighter, and so the S/N of the measurements are higher. Field strengths were measured using only the Balmer lines, as this provided adequate precision for their project. Because the printed version of the catalogue presented here has field values derived from both metal and H lines, the catalogue uncertainties may be as much as two times smaller than those of Kochukhov & Bagnulo (2006), and range up to similar or slightly larger values in stars in which the metallic spectrum contributed little useful information. Again, the actual values of  $\langle B_z \rangle$  in the present catalogue for stars in which the field is easily detected may differ from the earlier values by 10 or 20%, in this case at least mainly because the field is not determined using the same lines in the two datasets.

### 7.2. White dwarfs

We have also compared the catalogue to the field measurements of DA white dwarfs described by Landstreet et al. (2012a). Since this publication was based on a method very similar to that adopted for this catalogue, the field values and uncertainties are generally very similar in the two places. The main exception concerns the two (null) field measurement of the white dwarf WD 1334–678 that were included (by mistake) in their online Table 3 of all FORS measurements of potential kG field DA white dwarfs. We discovered that the actual target of that measurement is in fact an anonymous G star rather than the white dwarf, and that the white dwarf is actually more than 1 arcmin away from the fits-header coordinates. In this catalogue,

the observations have been assigned to the correct star (identified by the fits-header coordinates), and no field value is included in the catalogue, although the  $I$  spectrum is being made available.

For all the remaining stars, small field value differences are present, due to the slightly different version of the algorithm that we have adopted for this catalogue.

### 7.3. Other stars

A thorough comparison of the results in the catalogue with reported magnetic field discoveries in non-Ap/Bp stars made by other groups from FORS1 observations has been carried out by Bagnulo et al. (2012). The general result of this comparison was that many of the reported discoveries are erroneous or at least unsupported by a revision of the original FORS1 data.

In Sect. 5 of Bagnulo et al. (2012) we highlighted a number of cases where our pipeline-based data reduction was unsatisfactory. We have re-addressed these cases, sometimes using a “hand-made” data reduction, and found the conclusions described in the remaining part of this section, which addresses a dozen very specific cases.

Table 5 of Bagnulo et al. (2012) reported no detection but very large error bars for the observations of Be star HD 148184 on MJD = 53 532.224 and 53 862.380. Our new reduction produces much smaller error bars, and still does not confirm the detection previously reported in the literature.

Section 5.2 of Bagnulo et al. (2012) reported apparently significant but very suspicious field detections for four classical Be stars: an observation of HD 181615 = HD 181616, one observation of HD 56014, two observations of HD 209409 (in which the original observers did not report any significant fields), and one observation of HD 224686. Our new data reduction has fixed all these problems and no detection is reported, fully confirming the claim by Bagnulo et al. (2012) that from FORS data there is no evidence for magnetic fields in any classical Be star.

Similar problems affected three slowly pulsating B (SPB) stars (see comments in Sect. 5.4 of Bagnulo et al. 2012).

For the  $\langle B_z \rangle$  measurement of the SPB star HD 53921 obtained on MJD = 52 999.137, Bagnulo et al. (2012) reported a field detection with the opposite sign to that measured by Hubrig et al. (2006), and for the measurements obtained at MJD = 53 630.401 and 53 631.408, Bagnulo et al. (2012) reported error bars five times higher than previously reported by Hubrig et al. (2006), with no significant detection in these two datasets (however, Bagnulo et al. 2012 confirmed that the star is magnetic based on HARPSpol measurements). With our new reduction we are able to confirm the field detection on MJD = 52 999.137 with a positive sign, and we have gotten rid of

additional noise in the remaining two measurements, confirming the  $5\sigma$  detections reported by Hubrig et al. (2006).

Bagnulo et al. (2012) reported an unsatisfactory reduction for the SPB star HD 152511 on MJD = 54 609.433 due to seeing conditions. Our revision of this dataset lead to much better results, which are consistent with those of Hubrig et al. (2009). Therefore we confirm all three detections reported by Hubrig et al. (2009) instead of only two as reported by Bagnulo et al. (2012).

For the observations of the SPB star HD 28114 obtained on MJD = 54 106.091 Bagnulo et al. (2012) obtained a larger noise than was previously published by Hubrig et al. (2009), and a field detection based only on a signal that appears in the highest-order H Balmer lines. Our new reduction has a higher S/N, but we still get the same suspicious signal only on the highest-order H Balmer lines, and no credible field detection.

Section 5.4 of Bagnulo et al. (2012) conclude that six reported detections of a field in the  $\beta$  Cep star HD 16582 had decreased below the  $3\sigma$  significance limit, although one measurement not originally claimed as detection, on MJD = 54 343.259, has risen to become an apparently significant detection. This detection has disappeared in our new reduction, highlighting once again how the reliability of marginal discoveries may crucially depend on data-reduction.

## 8. FORS detections of stellar magnetic fields

With the complete dataset of magnetic measurements obtained with FORS1, we can take stock of the achievements of this instrument, and assess its strengths and weaknesses.

We consider first FORS1 measurements of Ap/Bp stars. A large number of such stars have been observed, both in open clusters and in the field, and in the context of wide-ranging surveys as well as for studies of single objects. For such stars, the detection rate is reasonably high: if the star is securely identified as an Ap/Bp star (by specific chemical peculiarities, or by appropriate values of the photometric Maitzen  $\Delta a$  or Geneva  $Z$  peculiarity parameters), then the likelihood of clear detection of a longitudinal field is around 50%. This result occurs because in practice the main surveys have been able to achieve measurement uncertainties of the order of 50–100 G, while the fields to be detected are typically several hundred G. Thus a measurement with  $\langle B_z \rangle / \sigma_{\langle B_z \rangle}$  ratio of order ten is often obtained, a value large enough to clearly establish the presence and amplitude of a field in spite of the excess noise that can sometimes trouble FORS1 measurements. It is clear that FORS is extremely powerful as a tool to search for fields in such stars, down to magnitudes fainter than  $V \sim 10$ , and is perfectly capable of detecting kG fields in stars as faint as  $V = 13$  or 14.

The FORS1 Ap stars data have recently been discussed by Landstreet et al. (2014), who studied the general usefulness of FORS for systematic studies of individual Ap stars, and concluded that (apart from occasional outliers) the instrument furnishes data of high quality and consistency. However, only a few of the observing programmes carried out on FORS1 have focused on this kind of problem.

With the discovery that WD 446-789, WD 2105-820, WD 2359-434 (and perhaps also WD 1105-048) host a magnetic field, the FORS1 surveys of white dwarfs have opened a new stream of research, i.e. systematic investigations of weak field (10 kG or less) in degenerate stars (Aznar Cuadrado et al. 2004; Landstreet et al. 2012a), which definitely justify the use of a telescope with an 8 m size mirror. FORS1 has played also an important role in the study of faint but stronger magnetic white dwarfs

(Kawka & Vennes 2012) and was used for the discovery of circular polarisation in the continuum and in the molecular bands of a DQ white dwarf (Vornanen et al. 2010).

When we look at the large number of observations of stars other than magnetic Ap/Bp stars, and the very small number of secure field detections, it is clear that most of the stellar magnetism programmes carried out on FORS1 of non-Ap/Bp stars were searches for fields in individual objects, or surveys of various classes of stars for detectable fields. The projects carried out have included large surveys of such star classes as Herbig Ae/Be stars, O stars, slowly pulsating B stars,  $\beta$  Cep B star pulsators, classical Be stars, normal B stars, and white dwarfs. A number of individual objects have also been studied.

However, from the  $\sim 1000$  measurements carried out on stars other than Ap stars and white dwarfs, we have only a few clear field detections, namely the pre-main-sequence star HD 101412, the  $\beta$  Cep variable HD 46328, the SPB stars HD 53921 and HD 152511, and the rapidly rotating star FK Com. In addition, a number of  $3-6\sigma$  FORS1 detections have been reported in the literature (some of which still present in this catalogue). As thoroughly discussed by Bagnulo et al. (2012), some of these detections have been proved by subsequent monitoring with FORS2 and ESPaDOnS to be real (e.g. the Of?p star HD 148937), but many of them have not been confirmed by our reduction, or by observations with other instruments, and are probably spurious. A small number of cases would deserve further investigations (e.g. the SPB star HD 138769, and the M giant star HD 298045).

The null results obtained in the various surveys of stars other than Ap stars are certainly valuable for setting upper limits on possible fields, e.g. on RR Lyrae stars (Kolenberg & Bagnulo 2009), on hot subdwarfs (see Landstreet et al. 2012b, and references therein), and on the central stars of planetary nebulae (Leone et al. 2011; Jordan et al. 2012). These results are often useful for constraining possible theoretical models of various kinds. The extremely low detection rate is mainly a consequence of the rarity in hot stars of fields that are large enough to be clearly detectable with FORS1 spectropolarimetry; such stars have a frequency of occurrence of 10% or less. It may also be a consequence of a tendency of both proposers and the OPC to prefer the 8 m telescope for exploration of new fields rather than systematic study of individual fields found. In any case, the low yield suggests that surveys with FORS need to be Large Programmes, and that otherwise the instrument should focus more on systematic study of single objects in which the field is known to be large enough to be studied at useful S/N with FORS.

## 9. Conclusions

This paper is the concluding work in a series that started with the first demonstration that FORS1 could be used effectively for magnetic field measurements of main sequence stars (Bagnulo et al. 2002). This was followed by several years during which FORS1 (and, later, the twin instrument FORS2) was widely used for observations of many classes of stars. After a few years it became apparent that a general discussion of the analysis of data obtained with dual-beam spectropolarimeters similar to that of FORS1 would be of considerable value to the community. This led to a paper presenting the fundamental ideas of the beam-swapping technique, and its application to night time astronomy (Bagnulo et al. 2009).

Further use of FORS1 led to announcements of numerous field discoveries at the  $3$  to  $5\sigma$  level. When these results were not confirmed by our own reduction of the data and/or



were contradicted by observations with other spectropolarimeters such as ESPaDOnS, it became apparent (1) that correct treatment of FORS1 data is less obvious than it appears at first sight, especially in the regime of small uncertainties and marginal field detections, and (2) that the instrument itself may be subject to small drifts and flexures that lead to erroneous data in a small fraction of cases. These issues were discussed in considerable detail by Bagnulo et al. (2012), who developed a suite of programs allowing the entire dataset of all magnetic observations obtained with FORS1 to be reduced together, with a variety of options. This tool made it possible to show that modest and reasonable improvements to the data reduction process (for example, optimal choice of a clipping algorithm to deal with cosmic ray events) could change field detections into non-detections (and occasionally vice versa).

Bagnulo et al. (2012) also clearly identified the occurrence of occasional outliers in FORS1 data, in which a single observation inconsistent with others obtained with FORS1/2, could occur. An important source of such occasional outliers, and more generally of excess noise in FORS1/2 field measurements, was identified by Bagnulo et al. (2013), who showed that small shifts in line position may occur in FORS data, probably as a result of small flexures (including spectral shifts following the rotation of the retarder waveplate) and of seeing, and that these shifts can lead to spurious field detections.

The present paper builds on the accumulated experience and experiments represented by these earlier works, also including the detailed discussion of the large body of field measurements of Ap/Bp stars by Landstreet et al. (2014). It does not, of course present *the* definitive reduction of the FORS1 magnetic dataset; as discussed in the earlier papers, several different choices made during data reduction are equally reasonable, but lead to somewhat different results. However, the reductions leading to the present catalogue are based on reasonable choices, applied in a consistent way to all the FORS1 field measurements, and they do rest on an understanding of, and correction of, small errors or poor choices made to treat data in the past.

The results compiled in this catalogue show that FORS is a very powerful instrument for (longitudinal) field measurement of both non-degenerate and degenerate stars. In the very best cases (for stars with rich spectra of deep lines), uncertainties of as low as 20 G or so can be achieved. Because of the outlier problem, new field detections should be repeated multiple times and/or made at the significance level of at least 5 or  $6\sigma$ . More typically, FORS can achieve realistic uncertainties of the order of 50–100 G for a wide range of stars down to  $V$  magnitude of 10 to 12, and  $\sim 500$  G uncertainties for white dwarfs of magnitude 12 or 13. The instrument is particularly well-suited to measurement of fields that can be detected at several  $\sigma$  level.

It should be borne in mind, however, that FORS makes very inefficient use of telescope time in observations of stars brighter than  $V \sim 7$ , for which the readout time of the CCD is larger than the integration time of each subexposure. This is the origin of the striking difference between shutter time and allocated time

mentioned at the beginning of Sect. 6. There may be times when FORS may still be the best instrument for the job, but it is used most efficiently on stars for which subexposure times of some or many minutes are needed.

The relevance of most of the considerations made in this series of papers are not limited to the FORS1 instrument, but should be taken into account when using/designing other spectro-polarimeters.

*Acknowledgements.* This paper is based on observations made with ESO telescopes at the La Silla Paranal Observatory under the programme IDs listed in Table 3, and made available through the ESO archive. L.F. acknowledges support from the Alexander von Humboldt Foundation. Work on this project by J.D.L. has been supported by the Natural Sciences and Engineering Research Council of Canada. We thank the referee P. Petit, for a careful review of the manuscript.

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**Table 5.** Magnetic field and null field are calculated from the combination of H Balmer and metal lines.

| Star        | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| WD 2359-434 | WD:DA5:M        | 070.D-0259 | 52 583.025 | 600B  | 3692 ± 842                | 1.02         | 496 ± 853                 | 1.07         | d-d |
| WD 2359-434 | WD:DA5:M        | 070.D-0259 | 52 608.056 | 600B  | 3144 ± 528                | 1.02         | 663 ± 483                 | 0.86         | D-D |
| HD 225041   | MS:A:RR         | 082.D-0342 | 54 781.102 | 1200B | 4 ± 32                    | 1.49         | 12 ± 25                   | 0.96         | nnn |
| HD 225264   | MS:A1:AP        | 073.D-0498 | 53 217.409 | 600B  | -26 ± 34                  | 0.90         | -22 ± 31                  | 0.79         | nnn |
| HD 358      | MS:B9:HGMN      | 071.D-0308 | 52 910.092 | 600B  | -304 ± 123                | 1.08         | 31 ± 120                  | 1.02         | nnn |
| HD 358      | MS:B9:HGMN      | 072.D-0377 | 52 963.020 | 600B  | 139 ± 101                 | 1.00         | -150 ± 102                | 1.01         | nnn |
| HD 358      | MS:B9:HGMN      | 075.D-0295 | 53 519.448 | 1200g | -88 ± 97                  | 2.23         | 194 ± 107                 | 2.23         | nnn |
| HD 358      | MS:B9:HGMN      | 075.D-0295 | 53 629.286 | 1200g | 23 ± 30                   | 1.21         | 23 ± 29                   | 0.95         | nnn |
| HD 358      | MS:B9:HGMN      | 075.D-0295 | 53 630.208 | 1200g | 5 ± 34                    | 1.08         | -15 ± 31                  | 0.94         | nnn |
| HD 358      | MS:B9:HGMN      | 075.D-0295 | 53 638.205 | 1200g | -17 ± 35                  | 0.99         | -16 ± 35                  | 0.96         | nnn |
| HD 358      | MS:B9:HGMN      | 380.D-0480 | 54 432.045 | 1200B | -25 ± 25                  | 0.89         | 48 ± 24                   | 0.80         | nnn |
| HD 358      | MS:B9:HGMN      | 380.D-0480 | 54 433.023 | 1200B | -25 ± 23                  | 1.87         | -27 ± 20                  | 1.38         | nnn |
| HD 1048     | MS:A1:AP        | 071.D-0308 | 52 910.103 | 600B  | 219 ± 83                  | 0.92         | -203 ± 84                 | 0.95         | dnn |
| HD 1048     | MS:A1:AP        | 073.D-0464 | 53 199.406 | 600B  | -46 ± 38                  | 0.91         | -44 ± 37                  | 0.88         | nnn |
| HD 1048     | MS:A1:AP        | 073.D-0464 | 53 215.382 | 600B  | 57 ± 44                   | 1.16         | -26 ± 42                  | 1.10         | nnn |
| NLTT 888    | WD:DAZ9:HPM     | 080.D-0521 | 54 419.126 | 600B  |                           |              |                           |              | -   |
| NLTT 888    | WD:DAZ9:HPM     | 080.D-0521 | 54 446.049 | 600B  |                           |              |                           |              | -   |
| RX Cet      | MS:A:RR         | 082.D-0342 | 54 782.153 | 1200B | 9 ± 48                    | 1.45         | 107 ± 47                  | 1.42         | nnn |
| HD 3326     | MS:A5:AP        | 072.D-0377 | 52 908.190 | 600B  | -3 ± 35                   | 0.92         | -100 ± 35                 | 0.92         | nnn |
| HD 3379     | MS:B2:SPB       | 073.D-0466 | 53 244.402 | 600B  | 93 ± 46                   | 0.99         | -53 ± 46                  | 1.03         | nnn |
| HD 3379     | MS:B2:SPB       | 073.D-0466 | 53 245.214 | 600B  | -47 ± 34                  | 0.87         | -24 ± 35                  | 0.97         | nnn |
| HD 3379     | MS:B2:SPB       | 075.D-0295 | 53 629.305 | 1200g | -8 ± 27                   | 0.99         | 18 ± 25                   | 0.87         | nnn |
| HD 3379     | MS:B2:SPB       | 075.D-0295 | 53 630.195 | 1200g | -22 ± 31                  | 1.05         | 8 ± 30                    | 1.03         | nnn |
| HD 3379     | MS:B2:SPB       | 078.D-0140 | 54 109.051 | 600B  | 9 ± 57                    | 0.77         | 20 ± 41                   | 0.75         | nnn |
| HD 3379     | MS:B2:SPB       | 078.D-0140 | 54 112.025 | 600B  | 18 ± 45                   | 1.13         | -27 ± 42                  | 0.96         | nnn |
| HD 3379     | MS:B2:SPB       | 079.D-0241 | 54 344.233 | 600B  | 66 ± 35                   | 0.73         | -126 ± 43                 | 0.76         | nnn |
| HD 3379     | MS:B2:SPB       | 079.D-0241 | 54 345.190 | 600B  | -16 ± 40                  | 0.85         | -37 ± 45                  | 0.73         | nnn |
| NLTT 2219   | WD:DA8:HPM      | 080.D-0521 | 54 448.083 | 600B  |                           |              |                           |              | -   |
| HD 3980     | MS:A7:M.AP      | 075.D-0295 | 53 624.076 | 1200g | 463 ± 31                  | 4.11         | 15 ± 15                   | 0.97         | ddd |
| HD 3980     | MS:A7:M.AP      | 075.D-0295 | 53 630.232 | 1200g | 408 ± 30                  | 9.75         | 29 ± 10                   | 0.99         | DDD |
| HD 3980     | MS:A7:M.AP      | 380.D-0480 | 54 432.010 | 1200B | -866 ± 24                 | 7.47         | 30 ± 11                   | 1.45         | DDD |
| HD 3980     | MS:A7:M.AP      | 380.D-0480 | 54 433.039 | 1200B | 1688 ± 29                 | 12.39        | -12 ± 11                  | 1.02         | DDD |
| HD 3980     | MS:A:M.AP       | 075.D-0295 | 53 559.410 | 1200g | 1147 ± 30                 | 4.61         | 6 ± 12                    | 0.75         | DDD |
| CD-38 222   | SD:B            | 075.D-0352 | 53 574.364 | 600B  | 54 ± 148                  | 0.90         | 56 ± 156                  | 1.00         | nnn |
| CD-38 222   | SD:B            | 075.D-0352 | 53 624.097 | 600B  | -234 ± 201                | 0.93         | 217 ± 284                 | 1.06         | nnn |
| HD 4539     | SD:B            | 075.D-0352 | 53 593.218 | 600B  | 552 ± 180                 | 1.00         | 87 ± 216                  | 0.92         | nnd |
| PHL 932     | SD:B            | 075.D-0352 | 53 593.256 | 600B  | -87 ± 291                 | 0.90         | -155 ± 365                | 0.95         | nnn |
| HD 6532     | MS:A5:M.AP      | 069.D-0210 | 52 531.392 | 600R  | 267 ± 73                  | 2.13         | -97 ± 52                  | 1.05         | nnd |
| CD-53 251   | PM:F2           | 074.C-0442 | 53 330.057 | 600B  | 174 ± 62                  | 0.97         | -2 ± 60                   | 0.89         | nnn |
| CD-53 251   | PM:F2           | 074.C-0442 | 53 330.085 | 1200g | 109 ± 33                  | 0.88         | 8 ± 32                    | 0.81         | nnd |
| CD-53 251   | PM:F2           | 081.C-0410 | 54 610.400 | 600B  | 10 ± 32                   | 0.77         | -67 ± 41                  | 0.76         | nnn |
| WD 0115+159 | WD:DQ6          | 082.D-0736 | 54 786.159 | 600B  |                           |              |                           |              | -   |
| HD 8783     | MS:A2:AP        | 071.D-0308 | 52 852.358 | 600B  | 57 ± 74                   | 0.91         | -143 ± 75                 | 0.93         | nnn |
| HD 9289     | MS:A3:M.AP.ROAP | 269.D-5044 | 52 519.252 | 600B  | 760 ± 56                  | 1.29         | 13 ± 47                   | 0.92         | DDD |
| HD 9672     | MS:A1           | 081.C-0410 | 54 610.437 | 600B  | -100 ± 32                 | 0.86         | 22 ± 33                   | 0.78         | dnd |
| PG 0133+114 | SD:B            | 075.D-0352 | 53 638.250 | 600B  | -778 ± 376                | 0.97         | 290 ± 437                 | 0.90         | dnn |
| WD 0135-052 | WD:DA7          | 070.D-0259 | 52 608.097 | 600B  | -318 ± 416                | 1.13         | 244 ± 388                 | 0.98         | n-n |
| WD 0136-340 | WD:DA8:HPM      | 080.D-0521 | 54 381.205 | 600B  | -1016 ± 2542              | 0.79         | -1617 ± 2643              | 0.85         | n-n |
| CD-24 731   | SD:B            | 075.D-0352 | 53 629.135 | 600B  | 536 ± 373                 | 1.07         | 601 ± 487                 | 1.14         | n-n |
| HD 10840    | MS:B9:M.AP      | 073.D-0464 | 53 184.331 | 600B  | -174 ± 42                 | 0.77         | 107 ± 42                  | 0.75         | dnd |
| NLTT 6004   | WD:DA8:HPM      | 080.D-0521 | 54 407.220 | 600B  | -12297 ± 3823             | 0.60         |                           |              | d-d |
| HD 11462    | MS:B8:SPB       | 079.D-0241 | 54 344.248 | 600B  | 21 ± 45                   | 0.78         | 103 ± 55                  | 0.76         | nnn |
| NLTT 6390   | WD:DAZ8:HPM     | 080.D-0521 | 54 405.182 | 600B  | -2845 ± 5635              | 0.95         |                           |              | n-n |
| CD-28 595   | MS:G:HPM        | 082.D-0695 | 54 829.015 | 300V  | 1886 ± 1164               | 0.83         |                           |              | nnn |
| CD-28 595   | MS:G:HPM        | 082.D-0695 | 54 830.035 | 300V  | -1048 ± 1023              | 0.75         |                           |              | nnn |
| CD-28 595   | MS:G:HPM        | 082.D-0695 | 54 831.032 | 300V  | -1513 ± 1357              | 0.73         |                           |              | nnn |
| HD 12932    | MS:A5:M.AP.ROAP | 269.D-5044 | 52 517.383 | 600B  | 915 ± 67                  | 1.20         | 8 ± 60                    | 0.97         | ddd |
| SS For      | MS:A:RR         | 082.D-0342 | 54 781.050 | 1200B | 34 ± 35                   | 1.15         | -37 ± 34                  | 1.10         | nnn |
| SS For      | MS:A:RR         | 082.D-0342 | 54 782.279 | 1200B | -43 ± 45                  | 1.44         | -37 ± 40                  | 1.18         | nnn |
| SS For      | MS:A:RR         | 082.D-0342 | 54 783.177 | 1200B | 42 ± 56                   | 1.13         | 126 ± 61                  | 1.34         | nnn |
| HD 13588    | MS:A1:AM        | 060.A-9203 | 53 717.023 | 300V  | 778 ± 449                 | 0.85         | 170 ± 443                 | 0.85         | nnn |

**Notes.** The full catalog is available at the CDS.

Table 5. continued.

| Star        | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 13588    | MS:A1:AM       | 076.D-0435 | 53 715.018 | 300V  | $-92 \pm 367$             | 0.86         | $-541 \pm 363$            | 0.84         | nnn |
| HD 13588    | MS:A1:AM       | 076.D-0435 | 53 715.022 | 600B  | $42 \pm 130$              | 0.87         | $143 \pm 130$             | 0.87         | nnn |
| HD 13588    | MS:A1:AM       | 082.D-0695 | 54 829.031 | 300V  | $-1107 \pm 503$           | 0.90         | $1490 \pm 466$            | 0.77         | nnn |
| RV Cet      | MS:A:RR        | 082.D-0342 | 54 781.252 | 1200B | $-21 \pm 34$              | 1.51         | $57 \pm 30$               | 1.24         | nnn |
| NLTT 7547   | WD:DAZ9:HPM    | 080.D-0521 | 54 447.136 | 600B  |                           |              |                           |              | –   |
| NLTT 7547   | WD:DAZ9:HPM    | 080.D-0521 | 54 447.172 | 600B  |                           |              |                           |              | –   |
| WD 0227+050 | WD:DA3         | 070.D-0259 | 52 637.120 | 600B  | $693 \pm 584$             | 1.01         | $-396 \pm 695$            | 0.95         | n-n |
| WD 0227+050 | WD:DA3         | 070.D-0259 | 52 669.062 | 600B  | $-507 \pm 588$            | 1.02         | $986 \pm 677$             | 0.91         | n-n |
| HD 16456    | MS:A:RR        | 082.D-0342 | 54 782.108 | 1200B | $-9 \pm 43$               | 1.40         | $32 \pm 35$               | 1.06         | nnn |
| HD 16456    | MS:A:RR        | 082.D-0342 | 54 783.257 | 1200B | $119 \pm 43$              | 1.24         | $15 \pm 35$               | 0.93         | nnn |
| NLTT 8525   | WD:DC:HPM      | 080.D-0521 | 54 397.126 | 600B  |                           |              |                           |              | –   |
| HD 16582    | MS:B2:BCEP     | 078.D-0140 | 54 047.129 | 600B  | $45 \pm 95$               | 0.96         | $142 \pm 91$              | 0.89         | nnn |
| HD 16582    | MS:B2:BCEP     | 078.D-0140 | 54 040.170 | 600B  | $96 \pm 37$               | 0.93         | $11 \pm 39$               | 0.90         | nnn |
| HD 16582    | MS:B2:BCEP     | 078.D-0330 | 54 109.071 | 600R  | $-190 \pm 79$             | 1.06         | $-76 \pm 83$              | 0.97         | nnn |
| HD 16582    | MS:B2:BCEP     | 079.D-0241 | 54 343.259 | 1200B | $-59 \pm 16$              | 1.38         | $-11 \pm 13$              | 0.97         | dnd |
| HD 16582    | MS:B2:BCEP     | 079.D-0241 | 54 344.200 | 1200B | $6 \pm 18$                | 1.42         | $23 \pm 14$               | 0.88         | nnn |
| HD 16582    | MS:B2:BCEP     | 079.D-0241 | 54 344.264 | 1200B | $2 \pm 15$                | 1.08         | $-40 \pm 14$              | 0.66         | nnn |
| HD 16582    | MS:B2:BCEP     | 079.D-0241 | 54 345.246 | 1200B | $-3 \pm 18$               | 1.17         | $-66 \pm 18$              | 1.13         | nnn |
| HD 16582    | MS:B2:BCEP     | 079.D-0241 | 54 345.293 | 1200B | $0 \pm 15$                | 1.09         | $-11 \pm 12$              | 0.73         | nnn |
| HD 16582    | MS:B2:BCEP     | 078.D-0330 | 54 014.211 | 600R  | $-130 \pm 66$             | 1.06         | $-144 \pm 60$             | 0.96         | nnn |
| NLTT 8733   | WD:DQ:HPM      | 080.D-0521 | 54 397.164 | 600B  |                           |              |                           |              | –   |
| HD 17081    | PM:B7          | 074.C-0442 | 53 331.053 | 600B  | $139 \pm 59$              | 1.01         | $-129 \pm 56$             | 0.90         | nnn |
| HD 17081    | PM:B7          | 074.C-0442 | 53 331.062 | 1200g | $53 \pm 45$               | 0.98         | $75 \pm 42$               | 0.85         | nnn |
| HD 19918    | MS:A5:M.AP     | 072.D-0377 | 52 908.210 | 600B  | $-751 \pm 63$             | 1.05         | $21 \pm 56$               | 0.86         | DDD |
| HD 19400    | MS:B8          | 071.D-0308 | 52 852.371 | 600B  | $170 \pm 85$              | 1.12         | $-162 \pm 77$             | 0.91         | nnn |
| HD 21190    | G:F2:V         | 079.D-0241 | 54 343.280 | 600B  | $14 \pm 16$               | 0.82         | $42 \pm 19$               | 0.74         | nnn |
| HD 19712    | MS:A0:M.AP     | 072.D-0377 | 52 905.384 | 600B  | $-1187 \pm 87$            | 1.02         | $-61 \pm 99$              | 0.88         | DDD |
| HD 19712    | MS:A0:M.AP     | 072.D-0377 | 52 999.025 | 600B  | $903 \pm 59$              | 1.41         | $38 \pm 46$               | 0.85         | DDD |
| WD 0310-688 | WD:DA3         | 070.D-0259 | 52 695.054 | 600B  | $197 \pm 414$             | 0.97         | $-358 \pm 441$            | 0.93         | n-n |
| WD 0310-688 | WD:DA3         | 080.D-0521 | 54 405.249 | 600B  | $3773 \pm 3493$           | 0.87         |                           |              | n-n |
| RX For      | MS:A:RR        | 082.D-0342 | 54 783.220 | 1200B | $9 \pm 55$                | 1.17         | $75 \pm 59$               | 1.32         | nnn |
| NLTT 10480  | WD:DAZ9:HPM    | 080.D-0521 | 54 405.224 | 600B  |                           |              |                           |              | –   |
| NLTT 10884  | WD:DA7:HPM     | 080.D-0521 | 54 400.144 | 600B  | $-4756 \pm 6009$          | 0.92         |                           |              | n-n |
| X Ret       | MS:A:RR        | 082.D-0342 | 54 782.219 | 1200B | $-45 \pm 47$              | 1.18         | $-21 \pm 45$              | 1.08         | nnn |
| NLTT 11051  | WD:DC:HPM      | 080.D-0521 | 54 407.269 | 600B  |                           |              |                           |              | –   |
| HD 22488    | MS:A3:AP       | 073.D-0464 | 53 087.014 | 600B  | $17 \pm 26$               | 0.91         | $27 \pm 26$               | 0.94         | nnn |
| CD-26 1339  | CP             | 072.D-0089 | 52 946.291 | 600B  | $207 \pm 318$             | 0.94         | $359 \pm 333$             | 1.05         | nnn |
| CD-26 1339  | CP             | 072.D-0089 | 52 988.235 | 600B  | $265 \pm 269$             | 0.91         | $-36 \pm 262$             | 0.83         | nnn |
| CD-26 1339  | CP             | 072.D-0089 | 52 989.060 | 600B  | $354 \pm 364$             | 1.08         | $105 \pm 370$             | 1.10         | nnn |
| CD-26 1339  | CP             | 072.D-0089 | 52 990.081 | 600B  | $86 \pm 313$              | 0.90         | $56 \pm 290$              | 0.77         | nnn |
| NLTT 11393  | WD:DAZ8:HPM    | 080.D-0521 | 54 407.322 | 600B  | $5497 \pm 6080$           | 0.86         |                           |              | n-n |
| HD 22374    | MS:A1:AP       | 072.D-0377 | 52 999.039 | 600B  | $-135 \pm 50$             | 1.02         | $-57 \pm 50$              | 1.02         | nnn |
| HD 22374    | MS:A1:AP       | 073.D-0464 | 53 216.380 | 600B  | $28 \pm 38$               | 1.80         | $-137 \pm 52$             | 2.29         | nnn |
| HD 278937   | PM:A3          | 074.C-0442 | 53 330.181 | 600B  | $20 \pm 90$               | 0.94         | $-4 \pm 84$               | 0.82         | nnn |
| HD 23207    | MS:A2:M.AP     | 073.D-0464 | 53 215.361 | 600B  | $159 \pm 44$              | 1.44         | $27 \pm 40$               | 1.18         | nnd |
| HD 23207    | MS:A2:M.AP     | 073.D-0464 | 53 218.336 | 600B  | $614 \pm 47$              | 4.68         | $-7 \pm 33$               | 2.21         | dDD |
| WD 0341+182 | WD:DQ8         | 082.D-0736 | 54 787.175 | 600B  |                           |              |                           |              | –   |
| HD 24188    | MS:A0:M.AP     | 073.D-0464 | 53 087.032 | 600B  | $538 \pm 44$              | 1.09         | $-58 \pm 41$              | 0.93         | DDD |
| PG 0342+026 | SD:B           | 075.D-0352 | 53 593.377 | 600B  | $-121 \pm 174$            | 0.99         | $258 \pm 204$             | 0.92         | nnn |
| HD 23408    | MS:B7:HEW      | 072.D-0377 | 52 963.155 | 600B  | $-80 \pm 64$              | 0.94         | $-78 \pm 81$              | 0.98         | nnn |
| HD 23598    | MS:B8:SPB      | 079.D-0241 | 54 344.397 | 600B  | $-20 \pm 44$              | 0.73         | $-45 \pm 55$              | 0.78         | nnn |
| WD 0346-011 | WD:DA1         | 070.D-0259 | 52 637.176 | 600B  | $2009 \pm 3239$           | 1.03         | $767 \pm 3350$            | 1.10         | n-n |
| WD 0346-011 | WD:DA1         | 070.D-0259 | 52 674.078 | 600B  | $2753 \pm 3111$           | 1.26         | $2645 \pm 3242$           | 1.36         | n-n |
| HD 275877   | PM:A2:V        | 074.C-0442 | 53 330.222 | 600B  | $-159 \pm 57$             | 0.92         | $-27 \pm 57$              | 0.92         | nnn |
| HD 23950    | MS:B9:HGMN     | 073.D-0464 | 53 216.419 | 600B  | $60 \pm 41$               | 0.95         | $99 \pm 38$               | 0.86         | nnn |
| HD 24626    | MS:B6          | 078.D-0140 | 54 086.134 | 600B  | $39 \pm 70$               | 1.02         | $44 \pm 66$               | 0.90         | nnn |
| HD 24587    | MS:B5:SPB      | 072.D-0377 | 52 971.071 | 600B  | $-37 \pm 80$              | 1.01         | $-11 \pm 70$              | 0.78         | nnn |
| HD 24587    | MS:B5:SPB      | 075.D-0295 | 53 574.415 | 1200g | $-12 \pm 50$              | 1.16         | $38 \pm 48$               | 1.05         | nnn |
| HD 24587    | MS:B5:SPB      | 075.D-0295 | 53 630.252 | 1200g | $18 \pm 41$               | 1.12         | $0 \pm 36$                | 0.88         | nnn |
| HD 24587    | MS:B5:SPB      | 078.D-0140 | 54 086.174 | 600B  | $-107 \pm 69$             | 0.83         | $-64 \pm 69$              | 0.84         | nnn |
| HD 24587    | MS:B5:SPB      | 079.D-0241 | 54 343.301 | 600B  | $-30 \pm 63$              | 0.80         | $-84 \pm 61$              | 0.74         | nnn |
| HD 25558    | MS:B3:SPB      | 078.D-0140 | 54 086.244 | 600B  | $-78 \pm 65$              | 0.92         | $-60 \pm 64$              | 0.90         | nnn |
| HD 25558    | MS:B3:SPB      | 079.D-0241 | 54 345.264 | 600B  | $43 \pm 41$               | 0.84         | $-37 \pm 40$              | 0.79         | nnn |
| HD 26326    | MS:B5:SPB      | 072.D-0377 | 52 909.389 | 600B  | $-30 \pm 80$              | 1.05         | $-69 \pm 74$              | 0.91         | nnn |



Table 5. continued.

| Star            | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-----------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 26326        | MS:B5:SPB      | 073.D-0466 | 53 218.357 | 600B  | $-8 \pm 57$               | 0.88         | $83 \pm 57$               | 0.88         | nnn |
| HD 26326        | MS:B5:SPB      | 075.D-0295 | 53 630.370 | 1200g | $-32 \pm 29$              | 1.16         | $19 \pm 25$               | 0.92         | nnn |
| HD 26326        | MS:B5:SPB      | 078.D-0140 | 54 086.262 | 600B  | $-71 \pm 64$              | 0.77         | $-7 \pm 69$               | 0.89         | nnn |
| HD 26739        | MS:B5:SPB      | 079.D-0241 | 54 344.283 | 600B  | $-20 \pm 38$              | 0.77         | $126 \pm 37$              | 0.75         | nnn |
| HD 26676        | MS:B8          | 074.C-0463 | 53 277.345 | 1200g | $36 \pm 112$              | 0.98         | $240 \pm 129$             | 0.99         | nnn |
| HD 27742        | MS:B8:SPB      | 079.D-0241 | 54 345.355 | 600B  | $-29 \pm 60$              | 0.97         | $75 \pm 52$               | 0.73         | nnn |
| HD 28114        | MS:B6:SPB      | 073.D-0466 | 53 223.413 | 600B  | $-37 \pm 89$              | 0.93         |                           |              | nnn |
| HD 28114        | MS:B6:SPB      | 075.D-0295 | 53 638.395 | 1200g | $-29 \pm 47$              | 0.95         | $32 \pm 48$               | 0.99         | nnn |
| HD 28114        | MS:B6:SPB      | 078.D-0140 | 54 106.091 | 600B  | $-128 \pm 52$             | 1.22         | $148 \pm 43$              | 0.96         | dnn |
| HD 28475        | MS:B5:SPB      | 078.D-0140 | 54 107.129 | 600B  | $101 \pm 50$              | 0.99         | $41 \pm 50$               | 0.99         | nnn |
| HD 28475        | MS:B5:SPB      | 079.D-0241 | 54 345.312 | 600B  | $5 \pm 40$                | 0.77         | $89 \pm 53$               | 0.80         | nnn |
| LSR J04356-6105 | WD:DC:HPM      | 080.D-0521 | 54 404.321 | 600B  |                           |              |                           |              | -   |
| HD 29248        | GS:B2:BCEP     | 075.D-0295 | 53 629.322 | 1200g | $-84 \pm 38$              | 1.01         | $0 \pm 35$                | 0.87         | nnn |
| HD 29248        | GS:B2:BCEP     | 075.D-0295 | 53 630.347 | 1200g | $-45 \pm 24$              | 1.37         | $-69 \pm 26$              | 1.18         | nnn |
| HD 29248        | GS:B2:BCEP     | 078.D-0140 | 54 086.286 | 600B  | $75 \pm 67$               | 0.96         | $-11 \pm 65$              | 0.91         | nnn |
| WD 0435-088     | WD:DQ7         | 082.D-0736 | 54 787.274 | 600B  |                           |              |                           |              | -   |
| HD 29376        | MS:B3:SPB.SB   | 079.D-0241 | 54 345.279 | 600B  | $48 \pm 51$               | 0.75         | $25 \pm 53$               | 0.81         | nnn |
| HD 30612        | MS:B9:AP       | 073.D-0464 | 53 087.046 | 600B  | $34 \pm 43$               | 0.95         | $-10 \pm 43$              | 0.93         | nnn |
| WD 0446-789     | WD:DA3:M       | 070.D-0259 | 52 609.229 | 600B  | $-2618 \pm 805$           | 1.12         | $1200 \pm 787$            | 1.09         | d-d |
| WD 0446-789     | WD:DA3:M       | 070.D-0259 | 52 668.087 | 600B  | $-5235 \pm 974$           | 1.21         | $-915 \pm 953$            | 1.16         | D-D |
| HD 30598        | MS:A1:AP       | 073.D-0498 | 53 249.321 | 600B  | $-5 \pm 114$              | 1.19         | $252 \pm 114$             | 1.20         | nnn |
| HD 30598        | MS:A1:AP       | 074.D-0488 | 53 399.080 | 600B  | $125 \pm 53$              | 0.89         | $-117 \pm 55$             | 0.92         | nnn |
| HD 31293        | PM:A0:PE       | 074.C-0442 | 53 331.178 | 600B  | $-107 \pm 108$            | 0.92         | $-10 \pm 108$             | 0.91         | nnn |
| U Lep           | MS:A:RR        | 082.D-0342 | 54 781.213 | 1200B | $-58 \pm 45$              | 1.34         | $143 \pm 38$              | 1.08         | nnn |
| HD 31648        | PM:A3:P.E.SH   | 074.C-0442 | 53 331.194 | 600B  | $102 \pm 66$              | 0.98         | $21 \pm 61$               | 0.84         | ndn |
| HD 31648        | PM:A3:P.E.SH   | 074.C-0463 | 53 296.355 | 1200g | $-32 \pm 45$              | 1.14         | $-85 \pm 42$              | 1.02         | nnn |
| HD 293782       | PM:A3:E        | 074.C-0442 | 53 330.114 | 600B  | $-78 \pm 68$              | 0.85         | $60 \pm 72$               | 0.93         | nnn |
| HD 33331        | GS:B5:SPB      | 079.D-0241 | 54 344.425 | 600B  | $-6 \pm 37$               | 0.78         | $-31 \pm 43$              | 0.70         | nnn |
| NLTT 14553      | WD:DQ:HPM      | 080.D-0521 | 54 501.128 | 600B  |                           |              |                           |              | -   |
| NLTT 14558      | WD:DA9:HPM     | 080.D-0521 | 54 496.106 | 600B  |                           |              |                           |              | -   |
| HD 33328        | MS:B2:E        | 077.D-0406 | 53 955.400 | 600B  | $-86 \pm 35$              | 1.00         | $7 \pm 33$                | 0.89         | nnn |
| HD 33328        | MS:B2:E        | 380.D-0480 | 54 432.114 | 1200B | $46 \pm 18$               | 1.20         | $1 \pm 14$                | 0.68         | nnn |
| HD 33328        | MS:B2:E        | 380.D-0480 | 54 433.114 | 1200B | $33 \pm 22$               | 1.77         | $77 \pm 16$               | 0.88         | nnn |
| HD 33904        | MS:B9:HGMN     | 380.D-0480 | 54 432.179 | 1200B | $-54 \pm 36$              | 1.17         | $65 \pm 43$               | 1.00         | nnn |
| TD1 32702       | SD:B           | 072.D-0290 | 53 058.025 | 600B  | $158 \pm 143$             | 1.01         | $128 \pm 177$             | 1.04         | nnn |
| HD 273211       | MS:A:RR        | 082.D-0342 | 54 781.162 | 1200B | $4 \pm 41$                | 1.43         | $67 \pm 41$               | 1.39         | nnn |
| HD 34282        | PM:A0:SH.E     | 074.C-0442 | 53 330.146 | 600B  | $1 \pm 76$                | 0.96         | $0 \pm 73$                | 0.91         | nnn |
| HD 34798        | MS:B3:SPB      | 073.D-0466 | 53 218.407 | 600B  | $-106 \pm 45$             | 0.88         | $115 \pm 52$              | 0.84         | nnn |
| HD 34798        | MS:B5:SPB      | 072.D-0377 | 52 999.055 | 600B  | $79 \pm 76$               | 1.10         | $-39 \pm 73$              | 1.01         | nnn |
| HD 34798        | MS:B5:SPB      | 075.D-0295 | 53 638.366 | 1200g | $-35 \pm 24$              | 0.96         | $-30 \pm 24$              | 0.87         | nnn |
| HD 34798        | MS:B5:SPB      | 078.D-0140 | 54 100.150 | 600B  | $45 \pm 70$               | 1.05         | $-162 \pm 68$             | 1.12         | nnn |
| HD 34797        | MS:B8:M.HEW    | 072.D-0377 | 52 999.066 | 600B  | $1229 \pm 75$             | 0.89         | $37 \pm 72$               | 0.84         | DDD |
| HD 35008        | MS:B9:M.AP     | 074.D-0488 | 53 399.015 | 600B  | $-321 \pm 66$             | 0.86         | $-75 \pm 70$              | 0.96         | dnd |
| HD 35187        | PM:A2:E        | 074.C-0442 | 53 331.231 | 600B  | $-18 \pm 59$              | 0.88         | $17 \pm 58$               | 0.87         | nnn |
| HD 35187        | PM:A2:E        | 074.C-0442 | 53 331.251 | 600B  | $121 \pm 58$              | 0.97         | $-114 \pm 55$             | 0.89         | nnn |
| HD 287841       | PM:A5:E        | 074.C-0442 | 53 330.299 | 600B  | $-8 \pm 69$               | 0.90         | $-46 \pm 68$              | 0.89         | nnn |
| HD 35929        | PM:A3:E        | 074.C-0442 | 53 331.094 | 600B  | $63 \pm 40$               | 0.92         | $45 \pm 40$               | 0.90         | nnn |
| HD 35929        | PM:A3:E        | 074.C-0463 | 53 297.365 | 1200g | $-1 \pm 16$               | 1.65         | $-11 \pm 12$              | 1.02         | nnn |
| HD 36046        | MS:B8:HEW      | 074.D-0488 | 53 400.056 | 600B  | $-9 \pm 74$               | 0.84         | $50 \pm 78$               | 0.92         | nnn |
| HD 36112        | PM:A8:E        | 074.C-0442 | 53 331.210 | 600B  | $-92 \pm 67$              | 0.85         | $119 \pm 69$              | 0.92         | nnn |
| HD 244604       | PM:A3          | 074.C-0442 | 53 331.123 | 600B  | $-12 \pm 59$              | 0.88         | $-71 \pm 57$              | 0.84         | nnn |
| GJ 206          | MS:M3:FLS      | 082.D-0695 | 54 831.042 | 300V  | $38 \pm 394$              | 1.41         |                           |              | -nn |
| HD 36540        | MS:B7:M.AP     | 070.D-0352 | 52 678.070 | 600B  | $312 \pm 51$              | 0.74         | $89 \pm 49$               | 0.66         | DnD |
| HD 36559        | MS:B9          | 070.D-0352 | 52 678.070 | 600B  | $48 \pm 61$               | 0.69         | $51 \pm 59$               | 0.68         | nnn |
| HD 36549        | MS:B7:HEW      | 074.D-0488 | 53 400.085 | 600B  | $-27 \pm 71$              | 0.87         | $-122 \pm 71$             | 0.88         | nnn |
| NSV 2123        | MS:G5:V        | 070.D-0352 | 52 678.089 | 600B  | $129 \pm 99$              | 0.77         | $187 \pm 92$              | 0.68         | nnn |
| HD 36629        | MS:B2:V        | 070.D-0352 | 52 678.089 | 600B  | $27 \pm 47$               | 0.70         | $-4 \pm 46$               | 0.65         | nnn |
| HD 36671        | MS:B9          | 070.D-0352 | 52 678.089 | 600B  | $55 \pm 57$               | 0.71         | $-4 \pm 53$               | 0.64         | nnn |
| HD 36918        | MS:B9          | 070.D-0352 | 52 679.090 | 600B  | $84 \pm 51$               | 0.82         | $-11 \pm 56$              | 0.94         | nnn |
| HD 36916        | MS:B8:M.HEW    | 070.D-0352 | 52 679.042 | 600B  | $-582 \pm 48$             | 0.81         | $79 \pm 50$               | 0.94         | DnD |
| HD 36960        | MS:B0          | 070.D-0352 | 52 679.071 | 600B  | $-47 \pm 43$              | 0.87         | $-18 \pm 45$              | 0.91         | nnn |
| HD 245185       | PM:A5          | 074.C-0442 | 53 331.154 | 600B  | $94 \pm 87$               | 0.91         | $-197 \pm 86$             | 0.90         | nnn |
| HD 36982        | MS:B2:P        | 070.D-0352 | 52 678.049 | 600B  | $96 \pm 178$              | 0.66         | $49 \pm 177$              | 0.65         | nnn |

Table 5. continued.

| Star        | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 290665   | MS:A0:M.AP     | 074.D-0488 | 53 399.056 | 600B  | $-1828 \pm 58$            | 1.43         | $-112 \pm 45$             | 0.86         | DDD |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 114.150 | 600R  | $-122 \pm 142$            | 1.17         | $117 \pm 137$             | 0.98         | -nn |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 116.057 | 600R  | $-381 \pm 95$             | 1.14         | $-18 \pm 89$              | 0.95         | -dd |
| HD 37022    | MS:O5:M.P.E    | 070.D-0352 | 52 678.049 | 600B  | $141 \pm 58$              | 0.72         | $-64 \pm 57$              | 0.73         | ndn |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 107.220 | 600R  | $418 \pm 81$              | 1.15         | $140 \pm 85$              | 1.05         | -DD |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 108.271 | 600R  | $506 \pm 133$             | 1.11         | $-102 \pm 113$            | 0.97         | -dd |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 112.174 | 600R  | $304 \pm 101$             | 1.10         | $-220 \pm 102$            | 0.89         | -dd |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 155.062 | 600R  | $439 \pm 104$             | 1.43         | $-202 \pm 89$             | 1.05         | -dd |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 156.072 | 600R  | $510 \pm 76$              | 1.43         | $2 \pm 67$                | 1.10         | -DD |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 157.051 | 600R  | $369 \pm 78$              | 1.51         | $47 \pm 69$               | 0.99         | -dd |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 158.085 | 600R  | $118 \pm 84$              | 1.23         | $-46 \pm 90$              | 1.14         | -nn |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 177.063 | 600R  | $-55 \pm 92$              | 0.99         | $113 \pm 96$              | 1.10         | -nn |
| HD 37022    | MS:O6:M.P.E    | 078.D-0330 | 54 182.048 | 600R  | $230 \pm 73$              | 1.25         | $-12 \pm 68$              | 0.83         | -dd |
| HD 37041    | MS:B1          | 070.D-0352 | 52 678.049 | 600B  | $73 \pm 55$               | 0.67         | $63 \pm 55$               | 0.68         | nnn |
| HD 37058    | MS:B3:M.HEW    | 070.D-0352 | 52 679.029 | 600B  | $-965 \pm 58$             | 0.86         | $20 \pm 59$               | 0.86         | DDD |
| HD 36879    | GS:O7          | 079.D-0241 | 54 345.389 | 600B  | $83 \pm 51$               | 0.74         | $-29 \pm 51$              | 0.75         | nnn |
| T Ori       | PM:A3          | 074.C-0442 | 53 332.111 | 600B  | $-67 \pm 83$              | 0.93         | $-72 \pm 87$              | 1.05         | nnn |
| HD 37151    | MS:B8:SPB      | 078.D-0140 | 54 107.154 | 600B  | $-54 \pm 49$              | 0.97         | $-70 \pm 47$              | 0.90         | nnn |
| V380 Ori    | PM:A0:M.E      | 074.C-0442 | 53 330.258 | 600B  |                           |              |                           |              | -   |
| HD 37210    | MS:B8:HEW      | 070.D-0352 | 52 679.057 | 600B  | $-62 \pm 60$              | 0.92         | $137 \pm 58$              | 0.83         | nnn |
| HD 37258    | PM:A2          | 074.C-0442 | 53 332.138 | 600B  | $-99 \pm 77$              | 0.92         | $3 \pm 74$                | 0.87         | nnn |
| BF Ori      | PM:A5:E.V      | 074.C-0442 | 53 330.277 | 600B  | $-115 \pm 38$             | 0.91         | $58 \pm 36$               | 0.86         | nnn |
| HD 37333    | MS:A0:AP       | 074.D-0488 | 53 399.033 | 600B  | $97 \pm 60$               | 1.09         | $291 \pm 53$              | 0.87         | nnn |
| HD 37357    | PM:A0:E        | 074.C-0442 | 53 332.157 | 600B  | $-13 \pm 66$              | 0.83         | $-123 \pm 64$             | 0.77         | nnn |
| HD 37411    | PM:B9          | 074.C-0442 | 53 330.320 | 600B  | $-69 \pm 68$              | 0.88         | $-39 \pm 66$              | 0.86         | nnn |
| HD 37428    | MS:A0          | 070.D-0352 | 52 678.117 | 600B  | $-165 \pm 66$             | 0.68         | $-123 \pm 65$             | 0.67         | nnn |
| HD 37470    | MS:B8:AP       | 070.D-0352 | 52 678.117 | 600B  | $-95 \pm 53$              | 0.68         | $211 \pm 52$              | 0.69         | nnn |
| HD 37490    | PM:B3:E        | 074.C-0442 | 53 332.171 | 600B  | $-77 \pm 119$             | 1.00         | $127 \pm 114$             | 0.93         | nnn |
| HD 37490    | PM:B3:E        | 074.C-0442 | 53 332.179 | 1200g | $-13 \pm 96$              | 0.83         | $-214 \pm 98$             | 0.94         | nnn |
| HD 37633    | MS:B9:M.AP     | 074.D-0488 | 53 400.071 | 600B  | $470 \pm 66$              | 0.91         | $-60 \pm 65$              | 0.84         | ddD |
| HD 37776    | MS:B2:M.HES    | 072.D-0119 | 52 940.368 | 300V  | $-476 \pm 928$            | 1.00         | $-234 \pm 1056$           | 0.87         | nnn |
| HD 37806    | PM:A0          | 074.C-0442 | 53 332.193 | 600B  | $53 \pm 61$               | 0.94         | $-28 \pm 58$              | 0.84         | nnn |
| HD 37806    | PM:A0          | 074.C-0442 | 53 332.202 | 1200g | $-121 \pm 56$             | 0.91         | $163 \pm 54$              | 0.83         | nnn |
| NGC 2024 1  | MS:B0          | 060.A-9800 | 54 832.205 | 300V  | $-2002 \pm 1792$          | 0.84         | $113 \pm 1614$            | 0.66         | nnn |
| NGC 2024 1  | MS:B0          | 060.A-9203 | 54 086.226 | 600B  | $-843 \pm 912$            | 0.94         |                           |              | nnn |
| NGC 2024 1  | MS:B0          | 060.A-9800 | 54 815.199 | 300V  | $-90 \pm 801$             | 1.04         | $-254 \pm 733$            | 0.87         | nnn |
| NGC 2024 1  | MS:B0          | 060.A-9800 | 54 815.219 | 300V  | $-204 \pm 306$            | 0.87         | $513 \pm 430$             | 1.67         | nnn |
| NGC 2024 1  | MS:B0          | 060.A-9800 | 54 820.182 | 300V  | $-661 \pm 1393$           | 0.60         | $-704 \pm 1532$           | 0.73         | nnn |
| NGC 2024 1  | MS:B0          | 060.A-9800 | 54 832.178 | 300V  | $2120 \pm 1540$           | 0.80         | $-288 \pm 1524$           | 0.79         | nnn |
| NGC 2024 1  | MS:B0          | 082.D-0695 | 54 829.024 | 300V  | $-262 \pm 1319$           | 0.77         |                           |              | nnn |
| NGC 2024 1  | MS:B0          | 060.A-9800 | 54 820.167 | 300V  | $794 \pm 1158$            | 0.81         | $1263 \pm 1094$           | 0.72         | nnn |
| HD 38238    | MS:A7:DSCT     | 073.D-0464 | 53 249.367 | 600B  | $37 \pm 44$               | 1.34         | $-136 \pm 40$             | 1.16         | nnn |
| HD 38238    | MS:A7:DSCT     | 075.D-0295 | 53 629.377 | 1200g | $-2 \pm 30$               | 1.01         | $20 \pm 29$               | 0.91         | nnn |
| HD 39060    | MS:A6:CSD      | 081.C-0410 | 54 609.954 | 600B  | $-12 \pm 23$              | 0.76         | $-85 \pm 25$              | 0.87         | nnn |
| HD 39060    | MS:A6:CSD      | 074.C-0463 | 53 296.272 | 1200g | $-148 \pm 58$             | 1.27         | $98 \pm 66$               | 1.29         | nnn |
| CPD-64 481  | SD:B           | 072.D-0290 | 53 058.069 | 600B  | $87 \pm 214$              | 1.03         | $-536 \pm 269$            | 0.99         | nnn |
| HD 39844    | MS:B6:SPB      | 079.D-0241 | 54 344.411 | 600B  | $-117 \pm 34$             | 0.84         | $-28 \pm 42$              | 0.77         | nnn |
| WD 0548-001 | WD:DQP8        | 082.D-0736 | 54 787.330 | 600B  |                           |              |                           |              | -   |
| HD 40494    | MS:B2:SPB      | 079.D-0241 | 54 343.427 | 600B  | $34 \pm 30$               | 0.86         | $41 \pm 29$               | 0.78         | nnn |
| HD 250550   | PM:B7:E        | 074.C-0442 | 53 332.220 | 600B  | $186 \pm 122$             | 1.14         | $-39 \pm 104$             | 0.79         | nnn |
| HD 41335    | MS:B2:E        | 080.D-0383 | 54 549.982 | 600B  | $-194 \pm 113$            | 0.96         | $111 \pm 103$             | 0.79         | nnn |
| HD 271924   | MS:A:RR        | 082.D-0342 | 54 782.316 | 1200B | $-105 \pm 44$             | 1.07         | $77 \pm 45$               | 1.15         | nnn |
| HD 252214   | MS:B2          | 070.D-0352 | 52 678.153 | 600B  | $24 \pm 40$               | 2.05         | $172 \pm 47$              | 2.44         | nnn |
| HD 41909    | GS:G0          | 070.D-0352 | 52 678.153 | 600B  | $49 \pm 27$               | 1.24         | $-14 \pm 21$              | 0.72         | nnn |
| NGC 2169 12 | MS:A0:M.AP     | 070.D-0352 | 52 678.153 | 600B  | $-2914 \pm 114$           | 0.90         | $-172 \pm 111$            | 0.85         | DDD |
| HD 252248   | MS:B3          | 070.D-0352 | 52 678.153 | 600B  | $-98 \pm 67$              | 0.73         | $-69 \pm 67$              | 0.67         | nnn |
| HD 252266   | MS:B3          | 070.D-0352 | 52 678.153 | 600B  | $-17 \pm 55$              | 0.70         | $32 \pm 55$               | 0.69         | nnn |
| HD 42659    | MS:A3:M.AP     | 072.D-0377 | 52 999.119 | 600B  | $382 \pm 48$              | 1.17         | $-39 \pm 42$              | 0.90         | DDD |
| RX Col      | MS:A:RR        | 082.D-0342 | 54 781.308 | 1200B | $41 \pm 77$               | 1.16         | $-6 \pm 75$               | 1.12         | nnn |
| WD 0612+177 | WD:DA2         | 070.D-0259 | 52 609.274 | 600B  | $-1282 \pm 754$           | 0.93         | $980 \pm 755$             | 0.93         | n-n |
| WD 0612+177 | WD:DA2         | 070.D-0259 | 52 672.079 | 600B  | $-424 \pm 733$            | 0.86         | $-1431 \pm 747$           | 0.89         | n-n |
| HD 44743    | GS:B1:BCEP     | 075.D-0295 | 53 475.031 | 1200g | $-96 \pm 66$              | 1.24         | $-18 \pm 65$              | 1.21         | nnn |
| HD 44743    | GS:B1:BCEP     | 075.D-0295 | 53 629.343 | 1200g | $-32 \pm 20$              | 0.74         | $-1 \pm 20$               | 0.76         | nnn |

Table 5. continued.

| Star               | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 44743           | GS:B1:BCEP      | 078.D-0140 | 54 046.360 | 600B  | 158 ± 75                  | 0.88         | 97 ± 75                   | 0.87         | nnn |
| HD 45284           | MS:B8:SPB.SB    | 073.D-0466 | 53 252.367 | 600B  | 56 ± 47                   | 1.00         | -9 ± 56                   | 0.93         | nnn |
| HD 45284           | MS:B8:SPB.SB    | 078.D-0140 | 54 107.242 | 600B  | -46 ± 57                  | 0.85         | -111 ± 58                 | 0.89         | nnn |
| HD 45284           | MS:B8:SPB.SB    | 078.D-0140 | 54 107.282 | 600B  | 114 ± 108                 | 0.84         | -15 ± 111                 | 0.88         | nnn |
| HD 45583           | MS:B9:M.AP      | 070.D-0352 | 52 679.237 | 600B  | -1545 ± 61                | 1.49         | -41 ± 47                  | 0.91         | DDD |
| HD 46005           | MS:B8:EB        | 073.D-0466 | 53 259.399 | 600B  | -27 ± 68                  | 0.99         | -2 ± 65                   | 0.98         | nnn |
| HD 46328           | GS:B1:M.BCEP    | 075.D-0295 | 53 475.046 | 1200g | 317 ± 22                  | 0.56         | 6 ± 19                    | 0.44         | DDD |
| HD 46328           | GS:B1:M.BCEP    | 075.D-0295 | 53 506.971 | 1200g | 325 ± 34                  | 1.09         | -95 ± 33                  | 0.99         | DDD |
| HD 46328           | GS:B1:M.BCEP    | 078.D-0140 | 54 061.325 | 600B  | 434 ± 59                  | 1.01         | 30 ± 56                   | 0.91         | DdD |
| HD 46328           | GS:B1:M.BCEP    | 078.D-0140 | 54 107.266 | 600B  | 423 ± 61                  | 1.18         | 60 ± 60                   | 1.01         | DdD |
| HD 46328           | GS:B1:M.BCEP    | 078.D-0140 | 54 114.030 | 600B  | 307 ± 57                  | 1.08         | -150 ± 62                 | 1.04         | ndD |
| HD 46328           | GS:B1:M.BCEP    | 078.D-0140 | 54 114.178 | 600B  | 457 ± 44                  | 1.00         | -27 ± 47                  | 0.99         | DDD |
| HD 46328           | GS:B1:M.BCEP    | 078.D-0140 | 54 116.109 | 600B  | 169 ± 63                  | 1.08         | 189 ± 56                  | 0.92         | ndn |
| HD 46328           | GS:B1:M.BCEP    | 078.D-0140 | 54 155.083 | 600B  | 299 ± 33                  | 1.03         | -9 ± 33                   | 0.87         | DDD |
| HD 46328           | GS:B1:M.BCEP    | 079.D-0241 | 54 343.372 | 1200B | 378 ± 16                  | 1.33         | -38 ± 17                  | 0.99         | DDD |
| HD 46328           | GS:B1:M.BCEP    | 079.D-0241 | 54 345.376 | 1200B | 414 ± 13                  | 1.54         | -6 ± 11                   | 0.95         | DDD |
| HD 46328           | GS:B1:M.BCEP    | 080.D-0383 | 54 548.976 | 600B  | 278 ± 50                  | 0.75         |                           |              | nDD |
| HD 46328           | GS:B1:M.BCEP    | 080.D-0383 | 54 549.995 | 600B  | 472 ± 43                  | 0.77         | -61 ± 51                  | 0.73         | DDD |
| NGC 2244 330       | ?:K7            | 070.D-0352 | 52 679.162 | 600B  | 54 ± 22                   | 1.28         | -91 ± 19                  | 0.97         | -nn |
| NGC 2244 331       | MS:B7           | 070.D-0352 | 52 679.162 | 600B  | -2024 ± 402               | 1.22         | -1161 ± 387               | 1.02         | DnD |
| NGC 2244 336       | MS:A5           | 070.D-0352 | 52 679.162 | 600B  | 113 ± 86                  | 1.14         | -127 ± 86                 | 1.16         | nnn |
| NGC 2244 334       | MS:B5:M.AP      | 070.D-0352 | 52 679.162 | 600B  | -7431 ± 154               | 1.72         | 159 ± 123                 | 1.20         | DDD |
| NGC 2244 365       | ?:G5            | 070.D-0352 | 52 679.162 | 600B  | -22 ± 56                  | 1.07         | -201 ± 52                 | 0.93         | nnn |
| NGC 2244 364       | ?:K5            | 070.D-0352 | 52 679.162 | 600B  | 119 ± 39                  | 0.89         | -1 ± 37                   | 0.78         | -dd |
| HD 259431          | PM:B6:P.E       | 074.C-0442 | 53 332.238 | 600B  | -294 ± 247                | 1.12         | -3 ± 215                  | 0.85         | nnn |
| WD 0631+107        | WD:DA2          | 070.D-0259 | 52 700.130 | 600B  | -1838 ± 1092              | 1.10         | 1885 ± 1172               | 1.29         | n-n |
| WD 0631+107        | WD:DA2          | 070.D-0259 | 52 702.125 | 600B  | 1267 ± 1108               | 1.19         | 323 ± 1069                | 1.10         | n-n |
| R Mon              | MS:B0:V         | 074.C-0442 | 53 332.257 | 600B  |                           |              |                           |              | -   |
| HD 47839           | PM:O7:E         | 081.C-0410 | 54 609.967 | 600B  | -36 ± 58                  | 0.87         | -31 ± 58                  | 0.87         | nnn |
| HD 289002          | SD:B3           | 072.D-0119 | 52 940.376 | 300V  | 3285 ± 2579               | 0.80         |                           |              | nnn |
| HD 49023           | MS:B9:AP        | 074.D-0488 | 53 400.098 | 600B  | 27 ± 70                   | 1.00         | 24 ± 65                   | 0.84         | nnn |
| CPD-20 1637        | MS:A1           | 073.D-0498 | 53 276.352 | 600B  | 54 ± 58                   | 0.70         | 16 ± 61                   | 0.77         | nnn |
| CPD-20 1637        | MS:A1           | 074.D-0488 | 53 400.119 | 600B  | -89 ± 192                 | 0.70         | -152 ± 190                | 0.68         | nnn |
| CPD-20 1640        | MS:A5:AP        | 074.D-0488 | 53 400.150 | 600B  | 110 ± 58                  | 0.73         | 91 ± 60                   | 0.76         | nnn |
| BD-20 1571         | MS:A3           | 073.D-0498 | 53 276.352 | 600B  | -81 ± 68                  | 0.79         | 55 ± 68                   | 0.79         | nnn |
| BD-20 1571         | MS:A3           | 074.D-0488 | 53 400.119 | 600B  | 200 ± 74                  | 0.69         | -57 ± 73                  | 0.68         | nnn |
| 06:46:52 -20:57:06 | ?:F             | 074.D-0488 | 53 400.150 | 600B  | -91 ± 90                  | 0.66         | -217 ± 96                 | 0.75         | nnn |
| NGC 2287 AR157     | MS:A6:AM        | 074.D-0488 | 53 400.150 | 600B  | -139 ± 94                 | 0.66         | -104 ± 102                | 0.77         | nnn |
| CPD-20 1645        | MS:A2           | 074.D-0488 | 53 400.150 | 600B  | -37 ± 67                  | 0.76         | 53 ± 66                   | 0.73         | nnn |
| HD 49 299          | MS:A0:M.AP      | 073.D-0498 | 53 276.352 | 600B  | -543 ± 38                 | 0.85         | 99 ± 36                   | 0.75         | DDD |
| HD 49299           | MS:A0:M.AP      | 074.D-0488 | 53 400.119 | 600B  | -2728 ± 58                | 1.55         | 145 ± 40                  | 0.74         | DDD |
| HD 49606           | GS:B8:HEW       | 072.D-0377 | 52 946.354 | 600B  | -8 ± 79                   | 0.84         | 49 ± 82                   | 0.92         | nnn |
| HD 49606           | GS:B8:HEW       | 380.D-0480 | 54 432.192 | 1200B | 145 ± 31                  | 1.15         | 61 ± 36                   | 0.94         | dnd |
| HD 50707           | SG:B1:BCEP      | 078.D-0140 | 54 107.319 | 600B  | 44 ± 70                   | 0.91         | 4 ± 68                    | 0.89         | nnn |
| HD 50707           | SG:B1:BCEP      | 079.D-0241 | 54 345.372 | 600B  | 54 ± 27                   | 0.86         | 2 ± 26                    | 0.77         | nnn |
| HD 51088           | MS:B8:AP        | 073.D-0498 | 53 269.384 | 600B  | -143 ± 51                 | 0.86         | 58 ± 50                   | 0.86         | nnn |
| HD 51088           | MS:B8:AP        | 074.D-0488 | 53 400.224 | 600B  | 108 ± 64                  | 0.89         | -22 ± 64                  | 0.90         | nnn |
| HD 52089           | SG:B2           | 079.D-0241 | 54 343.388 | 600B  | -195 ± 37                 | 0.86         | 90 ± 35                   | 0.79         | dnD |
| HD 52089           | SG:B2           | 078.D-0140 | 54 046.339 | 600B  | -112 ± 60                 | 0.97         | 93 ± 61                   | 1.02         | nnn |
| HD 52721           | PM:B2:E         | 074.C-0442 | 53 331.296 | 600B  | 202 ± 157                 | 1.04         | -156 ± 144                | 0.87         | nnn |
| HD 52965           | MS:B8           | 074.D-0488 | 53 400.211 | 600B  | -74 ± 69                  | 0.66         | -87 ± 70                  | 0.68         | nnn |
| HD 52980           | GS:B9           | 074.D-0488 | 53 400.211 | 600B  | -149 ± 47                 | 0.74         | 68 ± 46                   | 0.70         | nnd |
| BD-08 1708         | MS:B6           | 074.D-0488 | 53 400.211 | 600B  | -42 ± 110                 | 0.68         | 180 ± 110                 | 0.67         | nnn |
| HD 53921           | MS:B9:M.SP.B.SB | 075.D-0295 | 53 630.401 | 1200g | 144 ± 25                  | 0.80         | 7 ± 25                    | 0.80         | DnD |
| HD 53921           | MS:B9:M.SP.B.SB | 075.D-0295 | 53 631.408 | 1200g | 170 ± 20                  | 0.95         | -9 ± 19                   | 0.87         | DDD |
| HD 53921           | MS:B9:M.SP.B.SB | 078.D-0140 | 54 061.304 | 600B  | -16 ± 133                 | 0.83         | -86 ± 137                 | 0.88         | nnn |
| HD 53921A          | MS:B9:M.SP.B.SB | 072.D-0377 | 52 999.137 | 600B  | 511 ± 83                  | 0.86         | -77 ± 80                  | 0.79         | DdD |
| HD 53921B          | MS:B8:SB        | 072.D-0377 | 52 999.137 | 600B  | 257 ± 133                 | 0.81         | -326 ± 133                | 0.83         | nnn |
| HD 53179           | PM:B:P.E        | 081.C-0410 | 54 608.975 | 600B  | -250 ± 42                 | 1.01         | 29 ± 48                   | 0.93         | DdD |
| HD 53179           | PM:B:P.E        | 282.C-5041 | 54 826.242 | 600B  |                           |              |                           |              | -   |
| HD 53179           | PM:B:P.E        | 282.C-5041 | 54 826.307 | 1200B |                           |              |                           |              | -   |
| HD 53179           | PM:B:PE         | 074.C-0442 | 53 331.312 | 600B  | -308 ± 171                | 0.98         | 116 ± 180                 | 1.06         | n-n |
| HD 53244           | GS:B8           | 072.D-0377 | 52 999.155 | 600B  | 15 ± 60                   | 0.89         | 174 ± 71                  | 1.10         | nnn |
| HD 53367           | PM:B0:E         | 075.D-0507 | 53 475.064 | 1200g | 38 ± 252                  | 1.26         | -83 ± 242                 | 1.17         | nnn |



Table 5. continued.

| Star               | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 53367           | PM:B0:E        | 075.D-0507 | 53 503.002 | 1200g | $27 \pm 50$               | 1.11         | $-77 \pm 59$              | 1.11         | nnn |
| HD 53367A          | PM:B0:E        | 074.C-0442 | 53 330.338 | 600B  | $72 \pm 81$               | 0.84         | $101 \pm 83$              | 0.89         | nnn |
| HD 53367B          | PM:B0:E        | 074.C-0442 | 53 330.351 | 600B  | $-103 \pm 91$             | 0.96         | $-231 \pm 84$             | 0.82         | nnn |
| HD 53929           | GS:B9          | 072.D-0377 | 52 992.306 | 600B  | $58 \pm 212$              | 1.07         | $-242 \pm 215$            | 1.10         | nnn |
| HD 53929           | GS:B9          | 072.D-0377 | 53 004.210 | 600B  | $36 \pm 83$               | 0.85         | $102 \pm 86$              | 0.93         | nnn |
| TYC5385-927-1      | ?:F            | 068.D-0403 | 52 310.057 | 600R  | $14 \pm 245$              | 1.25         | $101 \pm 250$             | 1.29         | nnn |
| NGC 2343 13        | MS:B3          | 068.D-0403 | 52 310.057 | 600R  | $-49 \pm 101$             | 0.86         | $-47 \pm 98$              | 0.83         | nnn |
| 07:07:23 -10:31:45 | UNCLASSIFIED   | 068.D-0403 | 52 310.057 | 600R  | $259 \pm 115$             | 0.97         | $-55 \pm 120$             | 1.08         | nnn |
| BD-10 1875         | ?:A            | 068.D-0403 | 52 310.057 | 600R  | $-194 \pm 149$            | 0.85         | $181 \pm 140$             | 0.74         | nnn |
| NGC 2343 22        | MS:A0          | 068.D-0403 | 52 310.057 | 600R  | $55 \pm 148$              | 0.91         | $-208 \pm 142$            | 0.81         | nnn |
| NGC 2343 40        | MS:F1          | 068.D-0403 | 52 310.125 | 600R  | $-18 \pm 162$             | 0.91         | $230 \pm 160$             | 0.89         | nnn |
| NGC 2343 35        | MS:A6          | 068.D-0403 | 52 310.057 | 600R  | $262 \pm 185$             | 1.02         | $-617 \pm 178$            | 0.93         | nnn |
| BD-10 1878         | MS:B8          | 068.D-0403 | 52 310.125 | 600R  | $139 \pm 98$              | 0.81         | $107 \pm 95$              | 0.78         | nnn |
| 07:07:47 -10:37:54 | UNCLASSIFIED   | 068.D-0403 | 52 310.125 | 600R  |                           |              |                           |              | -   |
| NGC 2343 25        | MS:A3          | 068.D-0403 | 52 310.125 | 600R  | $341 \pm 152$             | 0.75         | $-131 \pm 158$            | 0.82         | nnn |
| NGC 2343 16        | ?:A8           | 068.D-0403 | 52 310.125 | 600R  | $-233 \pm 129$            | 0.92         | $96 \pm 121$              | 0.84         | nnn |
| BD-10 1879a        | MS:A3          | 068.D-0403 | 52 309.160 | 600R  | $-87 \pm 124$             | 0.72         | $334 \pm 129$             | 0.78         | nnn |
| 07:07:55 -10:36:11 | UNCLASSIFIED   | 068.D-0403 | 52 310.125 | 600R  | $38 \pm 220$              | 1.00         | $577 \pm 214$             | 0.94         | nnn |
| NGC 2343 34        | MS:A6          | 068.D-0403 | 52 309.067 | 600R  | $60 \pm 170$              | 0.88         | $126 \pm 171$             | 0.89         | nnn |
| NGC 2343 43        | MS:F           | 068.D-0403 | 52 309.210 | 600R  | $117 \pm 212$             | 0.98         | $7 \pm 210$               | 0.98         | nnn |
| NGC 2343 15        | GS:K4          | 068.D-0403 | 52 309.067 | 600R  | $94 \pm 46$               | 0.97         | $-29 \pm 44$              | 0.87         | nnn |
| NGC 2343 28        | MS:A5          | 068.D-0403 | 52 310.125 | 600R  | $294 \pm 160$             | 0.91         | $237 \pm 161$             | 0.94         | nnn |
| NGC 2343 37        | MS:A8          | 068.D-0403 | 52 309.210 | 600R  | $47 \pm 154$              | 0.91         | $3 \pm 163$               | 1.02         | nnn |
| HD 54304           | MS:B5          | 068.D-0403 | 52 309.123 | 600R  | $-72 \pm 62$              | 0.86         | $57 \pm 56$               | 0.65         | nnn |
| 07:08:00 -10:48:17 | UNCLASSIFIED   | 068.D-0403 | 52 309.160 | 600R  |                           |              |                           |              | -   |
| 07:08:01 -10:41:25 | UNCLASSIFIED   | 068.D-0403 | 52 310.125 | 600R  | $101 \pm 275$             | 1.25         | $-274 \pm 254$            | 1.06         | nnn |
| NGC 2343 27        | MS:A5          | 068.D-0403 | 52 309.210 | 600R  | $-108 \pm 175$            | 0.83         | $80 \pm 175$              | 0.90         | nnn |
| 07:08:03 -10:33:48 | UNCLASSIFIED   | 068.D-0403 | 52 309.210 | 600R  |                           |              |                           |              | -   |
| NGC 2343 23        | GS:F2          | 068.D-0403 | 52 309.123 | 600R  | $-58 \pm 76$              | 0.80         | $-18 \pm 73$              | 0.73         | nnn |
| 07:08:05 -10:34:48 | UNCLASSIFIED   | 068.D-0403 | 52 309.123 | 600R  |                           |              |                           |              | -   |
| NGC 2343 26        | MS:A7          | 068.D-0403 | 52 309.210 | 600R  | $73 \pm 147$              | 0.95         | $-194 \pm 139$            | 0.86         | nnn |
| NGC 2343 36        | MS:A7          | 068.D-0403 | 52 309.067 | 600R  | $-21 \pm 170$             | 1.00         | $276 \pm 166$             | 0.95         | nnn |
| NGC 2343 10        | MS:B8          | 068.D-0403 | 52 309.123 | 600R  | $38 \pm 115$              | 0.85         | $-113 \pm 105$            | 0.71         | nnn |
| NGC 2343 17        | MS:A2          | 068.D-0403 | 52 309.067 | 600R  | $281 \pm 131$             | 0.93         | $295 \pm 116$             | 0.78         | nnn |
| NGC 2343 6         | MS:B8          | 068.D-0403 | 52 309.123 | 600R  | $-8 \pm 81$               | 0.86         | $63 \pm 74$               | 0.73         | nnn |
| TYC5385-2097-1     | MS:A0          | 068.D-0403 | 52 309.160 | 600R  | $-169 \pm 318$            | 0.83         | $-133 \pm 310$            | 0.79         | nnn |
| BD-10 1883         | MS:B9          | 068.D-0403 | 52 309.067 | 600R  | $-75 \pm 86$              | 0.87         | $-124 \pm 79$             | 0.73         | nnn |
| NGC 2343 18        | MS:A4          | 068.D-0403 | 52 309.067 | 600R  | $124 \pm 105$             | 0.92         | $-151 \pm 99$             | 0.81         | nnn |
| NGC 2343 31        | MS:A6          | 068.D-0403 | 52 309.210 | 600R  | $-103 \pm 194$            | 0.97         | $172 \pm 194$             | 0.96         | nnn |
| V931 Mon           | MS:B9          | 068.D-0403 | 52 309.123 | 600R  | $29 \pm 147$              | 0.89         | $284 \pm 151$             | 0.94         | nnn |
| NGC 2343 38        | MS:A7          | 068.D-0403 | 52 309.123 | 600R  | $-24 \pm 193$             | 0.82         | $128 \pm 198$             | 0.87         | nnn |
| HD 54360           | MS:A0          | 068.D-0403 | 52 309.067 | 600R  | $-27 \pm 80$              | 1.51         | $94 \pm 61$               | 0.86         | nnn |
| NGC 2343 19        | GS:K           | 068.D-0403 | 52 309.067 | 600R  | $-137 \pm 154$            | 1.16         | $-108 \pm 119$            | 0.87         | nnn |
| BD-10 1885B        | MS:B9          | 068.D-0403 | 52 309.210 | 600R  | $148 \pm 99$              | 1.02         | $-71 \pm 91$              | 0.86         | nnn |
| 07:08:16 -10:33:50 | UNCLASSIFIED   | 068.D-0403 | 52 309.123 | 600R  |                           |              |                           |              | -   |
| HD 54387           | ?:G5           | 068.D-0403 | 52 309.067 | 600R  | $103 \pm 38$              | 1.18         | $-33 \pm 33$              | 0.92         | nnn |
| HD 54388           | ?:A3           | 068.D-0403 | 52 309.160 | 600R  | $-60 \pm 64$              | 1.64         | $-68 \pm 43$              | 0.72         | nnn |
| NGC 2343 30        | MS:A           | 068.D-0403 | 52 309.123 | 600R  | $201 \pm 241$             | 0.92         | $-293 \pm 229$            | 0.83         | nnn |
| 07:09:18 -32:04:30 | ?:G            | 080.D-0521 | 54 404.353 | 600B  |                           |              |                           |              | -   |
| HD 55522           | MS:B2:M.AP     | 072.D-0377 | 52 999.223 | 600B  | $148 \pm 83$              | 0.92         | $-19 \pm 79$              | 0.82         | nnn |
| HD 55522           | MS:B2:M.AP     | 072.D-0377 | 53 000.053 | 600B  | $920 \pm 61$              | 0.93         | $-139 \pm 62$             | 0.95         | DDD |
| HD 55522           | MS:B2:M.AP     | 073.D-0466 | 53 275.295 | 600B  | $806 \pm 47$              | 1.07         | $33 \pm 44$               | 0.96         | DDD |
| HD 55 718          | MS:B3:SPB      | 079.D-0241 | 54 343.401 | 600B  | $-6 \pm 48$               | 0.78         | $31 \pm 59$               | 0.78         | nnn |
| HD 56350           | MS:B:M.AP      | 072.D-0377 | 52 999.239 | 600B  | $888 \pm 75$              | 0.96         | $-8 \pm 69$               | 0.80         | DDD |
| HD 55958           | MS:B2:BCEP     | 079.D-0241 | 54 343.414 | 600B  | $-76 \pm 39$              | 0.74         | $-67 \pm 51$              | 0.82         | nnn |
| HD 56014           | GS:B3:E        | 075.D-0507 | 53 511.976 | 1200g | $-91 \pm 44$              | 0.96         | $41 \pm 43$               | 0.91         | nnn |
| HD 56014           | GS:B3:E        | 080.D-0383 | 54 549.071 | 600B  | $-48 \pm 52$              | 0.82         | $-104 \pm 62$             | 0.77         | nnn |
| HD 56014           | GS:B3:E        | 380.D-0480 | 54 432.163 | 1200B | $54 \pm 26$               | 0.78         | $-33 \pm 24$              | 0.65         | nnn |
| HD 56014           | GS:B3:E        | 380.D-0480 | 54 433.134 | 1200B | $9 \pm 26$                | 1.26         | $-41 \pm 21$              | 0.83         | nnn |
| HD 56455           | MS:A0:AP       | 072.D-0377 | 52 999.251 | 600B  | $160 \pm 91$              | 0.83         | $-120 \pm 93$             | 0.86         | nnn |
| HD 56139           | MS:B2:E        | 075.D-0507 | 53 503.049 | 1200g | $46 \pm 54$               | 1.10         | $19 \pm 51$               | 0.96         | nnn |
| HD 56343           | MS:B9:M.AP     | 073.D-0498 | 53 269.356 | 600B  | $-3731 \pm 78$            | 1.34         | $83 \pm 65$               | 0.91         | DDD |
| NX Pup             | PM:A0          | 074.C-0442 | 53 331.275 | 600B  | $-178 \pm 53$             | 1.02         | $138 \pm 52$              | 0.99         | dnd |
| HD 58448           | MS:B8:AP       | 072.D-0377 | 52 999.265 | 600B  | $44 \pm 89$               | 0.83         | $34 \pm 89$               | 0.84         | nnn |

Table 5. continued.

| Star            | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-----------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 58011        | SG:B1:E.P      | 075.D-0507 | 53 503.031 | 1200g | $-6 \pm 70$               | 1.04         | $119 \pm 68$              | 0.98         | nnn |
| HD 58011        | SG:B1:E.P      | 080.D-0383 | 54 549.082 | 600B  | $-145 \pm 106$            | 0.69         | $203 \pm 148$             | 0.86         | nnn |
| HD 58050        | MS:B2:E        | 075.D-0507 | 53 630.417 | 1200g | $-116 \pm 51$             | 0.93         | $-66 \pm 51$              | 0.91         | nnn |
| HD 58978        | GS:B1          | 080.D-0383 | 54 548.996 | 600B  | $-148 \pm 232$            | 1.02         | $310 \pm 262$             | 0.87         | nnn |
| HD 58715        | MS:B8:E        | 080.D-0383 | 54 549.060 | 600B  | $-38 \pm 52$              | 0.88         | $63 \pm 61$               | 0.88         | nnn |
| HD 60435        | MS:A3:M.AP     | 072.D-0377 | 53 000.072 | 600B  | $-454 \pm 54$             | 0.95         | $-138 \pm 52$             | 0.89         | dDD |
| HD 60855        | MS:B2          | 080.D-0383 | 54 549.049 | 600B  | $88 \pm 93$               | 0.81         | $14 \pm 92$               | 0.79         | nnn |
| HD 60940        | MS:B8          | 074.D-0488 | 53 399.241 | 600B  | $9 \pm 38$                | 0.68         | $6 \pm 38$                | 0.66         | nnn |
| BD-14 2015      | MS:B9          | 074.D-0488 | 53 399.241 | 600B  | $-42 \pm 54$              | 0.65         | $-97 \pm 58$              | 0.73         | nnn |
| HD 60968        | MS:G5          | 074.D-0488 | 53 399.241 | 600B  | $-55 \pm 22$              | 0.77         | $-20 \pm 21$              | 0.70         | -nn |
| CD-31 4800      | SD:O           | 072.D-0290 | 53 058.215 | 600B  | $-75 \pm 129$             | 0.93         | $-37 \pm 151$             | 0.87         | nnn |
| HD 60996        | MS:B9          | 074.D-0488 | 53 399.241 | 600B  | $71 \pm 43$               | 0.67         | $-29 \pm 43$              | 0.67         | nnn |
| HD 61068        | GS:B2:BCEP     | 078.D-0140 | 54 107.338 | 600B  | $-3 \pm 52$               | 0.97         | $-6 \pm 47$               | 0.85         | nnn |
| NGC 2422 PMS921 | MS:A6          | 070.D-0352 | 52 678.186 | 600B  | $-184 \pm 224$            | 0.70         | $124 \pm 227$             | 0.72         | nnn |
| NGC 2422 PMS119 | MS:A8          | 070.D-0352 | 52 678.186 | 600B  | $37 \pm 200$              | 0.68         | $123 \pm 200$             | 0.69         | nnn |
| BD-14 2028      | MS:A1:AP       | 272.D-5026 | 53 063.180 | 600B  | $25 \pm 93$               | 0.92         | $-189 \pm 91$             | 0.89         | nnn |
| BD-14 2028      | MS:A1:AP       | 272.D-5026 | 53 072.198 | 600B  | $-64 \pm 110$             | 0.93         | $263 \pm 109$             | 0.92         | nnn |
| HD 61045        | MS:B8:M.AP     | 070.D-0352 | 52 678.186 | 600B  | $412 \pm 45$              | 0.67         | $46 \pm 46$               | 0.69         | DDD |
| HD 61045        | MS:B8:M.AP     | 074.D-0488 | 53 399.258 | 600B  | $297 \pm 59$              | 0.80         | $95 \pm 61$               | 0.85         | dnD |
| BD-14 2033      | MS:A1          | 070.D-0352 | 52 678.186 | 600B  | $614 \pm 201$             | 0.70         | $39 \pm 193$              | 0.64         | nnd |
| BD-14 2040      | MS:A1:AP       | 070.D-0352 | 52 678.186 | 600B  | $26 \pm 164$              | 0.68         | $70 \pm 164$              | 0.68         | nnn |
| BD-14 2040      | MS:A1:AP       | 074.D-0488 | 53 399.212 | 600B  | $-57 \pm 58$              | 0.95         | $12 \pm 56$               | 0.86         | nnn |
| HD 61712        | MS:B7:CSD      | 074.C-0463 | 53 359.251 | 1200g | $-102 \pm 39$             | 0.95         | $-66 \pm 37$              | 0.90         | nnn |
| V547 Pup        | WD:?:NOV       | 274.D-5025 | 53 348.236 | 1200g |                           |              |                           |              | -   |
| HD 62376        | MS:B7          | 074.D-0488 | 53 399.112 | 600B  | $88 \pm 54$               | 0.82         | $-214 \pm 57$             | 0.90         | nnn |
| HD 62367        | MS:B8:E        | 080.D-0383 | 54 549.096 | 600B  | $31 \pm 55$               | 0.86         | $-117 \pm 66$             | 0.83         | nnn |
| CD-37 3845      | MS:A0:P        | 070.D-0352 | 52 678.203 | 600B  | $-57 \pm 87$              | 0.75         | $-67 \pm 87$              | 0.72         | ndn |
| HD 62974        | MS:A3          | 070.D-0352 | 52 678.203 | 600B  | $10 \pm 80$               | 0.71         | $56 \pm 76$               | 0.65         | nnn |
| HD 62992        | MS:A0:M.AP     | 070.D-0352 | 52 678.203 | 600B  | $-189 \pm 37$             | 0.67         | $-33 \pm 37$              | 0.63         | ddD |
| HD 63079        | MS:B7:AP       | 074.D-0488 | 53 399.098 | 600B  | $65 \pm 59$               | 0.86         | $67 \pm 60$               | 0.88         | nnn |
| NLTT 18393      | MS:M3:HPM      | 080.D-0521 | 54 426.285 | 600B  | $-385 \pm 341$            | 0.75         |                           |              | -nn |
| HD 63401        | MS:B8:M.AP     | 070.D-0352 | 52 678.026 | 600B  | $-589 \pm 53$             | 0.88         | $-65 \pm 52$              | 0.84         | DDD |
| HD 63401        | MS:B8:M.AP     | 072.D-0377 | 53 002.053 | 600B  | $153 \pm 95$              | 0.85         | $-55 \pm 95$              | 0.84         | nnn |
| HD 63401        | MS:B8:M.AP     | 072.D-0377 | 53 004.228 | 600B  | $-414 \pm 101$            | 0.88         | $31 \pm 101$              | 0.87         | dnd |
| HD 63401        | MS:B8:M.AP     | 074.D-0488 | 53 399.125 | 600B  | $322 \pm 55$              | 0.84         | $-21 \pm 70$              | 0.87         | DnD |
| HD 64368        | MS:A5          | 079.D-0241 | 54 345.429 | 600B  | $13 \pm 93$               | 0.84         |                           |              | nnn |
| HD 63975        | MS:B8:HGMN     | 072.D-0377 | 52 992.278 | 600B  | $132 \pm 90$              | 0.93         | $52 \pm 86$               | 0.87         | nnn |
| NGC 2489 59     | MS:B9          | 074.D-0488 | 53 400.258 | 600B  | $538 \pm 136$             | 0.99         | $27 \pm 150$              | 0.89         | ddd |
| NGC 2489 58     | MS:A0          | 074.D-0488 | 53 400.258 | 600B  | $-6 \pm 165$              | 1.04         | $-370 \pm 202$            | 1.01         | nnn |
| NGC 2489 40     | MS:B8          | 074.D-0488 | 53 400.258 | 600B  | $-312 \pm 158$            | 0.97         | $-84 \pm 180$             | 0.82         | nnn |
| HD 65691        | MS:B8          | 068.D-0403 | 52 310.252 | 600R  | $-257 \pm 130$            | 0.83         | $-66 \pm 131$             | 0.82         | nnn |
| NGC 2489 5      | MS:A0          | 074.D-0488 | 53 400.258 | 600B  | $478 \pm 198$             | 0.97         | $65 \pm 232$              | 0.89         | nnn |
| HD 65712        | MS:A0:M.AP     | 070.D-0352 | 52 679.306 | 600B  | $-1296 \pm 71$            | 1.42         | $64 \pm 61$               | 1.03         | DDD |
| HD 65712        | MS:A0:M.AP     | 074.D-0488 | 53 399.183 | 600B  | $-569 \pm 49$             | 1.08         | $33 \pm 45$               | 0.90         | DDD |
| CPD-60 942      | MS:A1          | 068.D-0403 | 52 310.252 | 600R  | $210 \pm 212$             | 1.07         | $-62 \pm 205$             | 1.00         | nnn |
| CPD-60 944A     | MS:A0:AP       | 068.D-0403 | 52 310.252 | 600R  | $53 \pm 67$               | 0.85         | $7 \pm 64$                | 0.76         | nnn |
| CPD-60 944A     | MS:A0:AP       | 074.D-0488 | 53 399.142 | 600B  | $-61 \pm 52$              | 0.91         | $-99 \pm 53$              | 0.93         | nnn |
| CD-60 1929      | GS:B9          | 068.D-0403 | 52 310.252 | 600R  | $29 \pm 83$               | 1.05         | $10 \pm 79$               | 0.92         | nnn |
| CPD-60 944B     | MS:B9:M.AP     | 068.D-0403 | 52 310.288 | 600R  | $463 \pm 72$              | 0.84         | $67 \pm 67$               | 0.75         | dDD |
| CPD-60 944B     | MS:B9:M.AP     | 074.D-0488 | 53 399.161 | 600B  | $240 \pm 53$              | 0.94         | $31 \pm 51$               | 0.88         | dnd |
| CD-60 1932      | MS:A0          | 068.D-0403 | 52 310.252 | 600R  | $-244 \pm 253$            | 0.93         | $141 \pm 246$             | 0.88         | nnn |
| CD-60 1932      | MS:A0          | 068.D-0403 | 52 310.288 | 600R  | $-48 \pm 209$             | 0.80         | $-272 \pm 209$            | 0.76         | nnn |
| NGC 2516 DAC311 | MS:A0          | 068.D-0403 | 52 310.288 | 600R  | $351 \pm 346$             | 1.23         | $287 \pm 320$             | 1.06         | nnn |
| NGC 2516 DAC313 | ?:G            | 068.D-0403 | 52 310.288 | 600R  | $-389 \pm 433$            | 1.35         | $446 \pm 465$             | 1.53         | dnn |
| NGC 2516 SBL333 | MS:B8          | 068.D-0403 | 52 310.288 | 600R  |                           |              |                           |              | -   |
| HD 65869        | MS:B9          | 068.D-0403 | 52 310.288 | 600R  | $179 \pm 106$             | 1.10         | $32 \pm 94$               | 0.87         | nnn |
| HD 65896        | MS:A0          | 068.D-0403 | 52 309.330 | 600R  | $165 \pm 78$              | 0.84         | $-187 \pm 74$             | 0.77         | nnn |
| HD 65950        | MS:B9:HGMN     | 068.D-0403 | 52 310.323 | 600R  | $-90 \pm 45$              | 0.90         | $-2 \pm 40$               | 0.73         | nnn |
| HD 65950        | MS:B9:HGMN     | 072.D-0377 | 53 002.067 | 600B  | $48 \pm 73$               | 0.98         | $25 \pm 69$               | 0.88         | nnn |
| NGC 2516 DAC515 | ?:F            | 068.D-0403 | 52 310.323 | 600R  | $145 \pm 189$             | 1.21         | $-328 \pm 178$            | 1.06         | nnn |
| V373 Car        | MS:B           | 272.D-5026 | 53 072.226 | 600B  | $-98 \pm 48$              | 0.80         | $150 \pm 46$              | 0.74         | nnn |
| V373 Car        | MS:B           | 068.D-0403 | 52 310.180 | 600R  | $56 \pm 39$               | 0.86         | $22 \pm 36$               | 0.73         | nnn |
| HD 65949        | MS:B8:HGMN     | 072.D-0377 | 53 002.082 | 600B  | $-45 \pm 78$              | 0.85         | $-80 \pm 77$              | 0.82         | nnn |

Table 5. continued.

| Star            | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-----------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 65949        | MS:B8:HGMN     | 078.D-0140 | 54 108.300 | 600B  | $-59 \pm 64$              | 0.91         | $25 \pm 61$               | 0.84         | nnn |
| HD 65949        | MS:B8:HGMN     | 380.D-0480 | 54 433.367 | 1200B | $-105 \pm 30$             | 1.16         | $-253 \pm 28$             | 1.00         | ndd |
| CPD-60 969      | MS:B9          | 068.D-0403 | 52 309.330 | 600R  | $47 \pm 98$               | 0.79         | $32 \pm 87$               | 0.62         | nnn |
| HD 65949        | MS:B8:HGMN     | 068.D-0403 | 52 309.330 | 600R  | $48 \pm 68$               | 0.89         | $24 \pm 61$               | 0.74         | nnn |
| NGC 2516 SBL559 | UNCLASSIFIED   | 068.D-0403 | 52 309.330 | 600R  | $-279 \pm 229$            | 1.02         | $593 \pm 238$             | 1.10         | -nn |
| CPD-60 975      | MS:A:V         | 068.D-0403 | 52 309.160 | 600R  | $198 \pm 93$              | 0.71         | $-85 \pm 97$              | 0.76         | ndn |
| CPD-60 975      | MS:A:V         | 068.D-0403 | 52 310.180 | 600R  | $38 \pm 86$               | 0.76         | $-87 \pm 79$              | 0.63         | nnn |
| CPD-60 977      | MS:F0          | 068.D-0403 | 52 309.293 | 600R  | $32 \pm 64$               | 0.74         | $89 \pm 64$               | 0.75         | nnn |
| HD 65987        | MS:B9:M.AP     | 272.D-5026 | 53 063.222 | 600B  | $-442 \pm 62$             | 0.96         | $-88 \pm 59$              | 0.89         | DdD |
| V391 Car        | MS:A0:AP       | 068.D-0403 | 52 309.160 | 600R  | $5 \pm 60$                | 0.72         | $115 \pm 56$              | 0.65         | nnn |
| V391 Car        | MS:A0:AP       | 272.D-5026 | 53 072.226 | 600B  | $-138 \pm 78$             | 0.74         | $-7 \pm 78$               | 0.74         | nnn |
| HD 65987        | MS:B9:M.AP     | 068.D-0403 | 52 309.330 | 600R  | $738 \pm 122$             | 1.07         | $-327 \pm 114$            | 0.94         | ddD |
| V391 Car        | MS:A0:AP       | 068.D-0403 | 52 310.180 | 600R  | $14 \pm 58$               | 0.81         | $-39 \pm 51$              | 0.69         | nnn |
| V410 Car        | MS:A7          | 068.D-0403 | 52 309.293 | 600R  | $-93 \pm 143$             | 0.86         | $35 \pm 139$              | 0.81         | nnn |
| V392 Car        | MS:A2          | 068.D-0403 | 52 310.180 | 600R  | $63 \pm 69$               | 0.98         | $125 \pm 58$              | 0.69         | nnn |
| V392 Car        | MS:A2          | 068.D-0403 | 52 310.323 | 600R  | $147 \pm 133$             | 0.91         | $139 \pm 135$             | 0.93         | nnn |
| V392 Car        | MS:A2          | 272.D-5026 | 53 072.226 | 600B  | $96 \pm 80$               | 0.70         | $143 \pm 81$              | 0.72         | nnn |
| NGC 2516 SBL658 | UNCLASSIFIED   | 068.D-0403 | 52 309.293 | 600R  | $61 \pm 370$              | 1.07         | $133 \pm 373$             | 1.10         | nnn |
| CD-60 1967      | MS:B9          | 068.D-0403 | 52 309.160 | 600R  | $60 \pm 63$               | 0.74         | $8 \pm 64$                | 0.79         | -nn |
| CD-60 1971      | MS:B8          | 068.D-0403 | 52 309.160 | 600R  | $239 \pm 134$             | 0.86         | $16 \pm 124$              | 0.74         | n-n |
| V417 Car        | MS:A6          | 068.D-0403 | 52 309.330 | 600R  | $-169 \pm 87$             | 0.77         | $89 \pm 87$               | 0.77         | nnn |
| CPD-60 984      | MS:A2          | 068.D-0403 | 52 309.293 | 600R  | $216 \pm 102$             | 0.85         | $-80 \pm 98$              | 0.79         | -nn |
| CPD-60 986      | MS:A2          | 068.D-0403 | 52 309.293 | 600R  | $0 \pm 102$               | 0.77         | $-196 \pm 101$            | 0.76         | nnn |
| V418 Car        | MS:A6          | 068.D-0403 | 52 310.180 | 600R  | $69 \pm 128$              | 0.76         | $-46 \pm 129$             | 0.76         | nnn |
| CPD-60 988AB    | MS:B8          | 068.D-0403 | 52 309.160 | 600R  | $110 \pm 362$             | 1.18         | $-601 \pm 326$            | 0.96         | n-n |
| CD-60 1974      | MS:A1          | 272.D-5026 | 53 072.226 | 600B  | $-179 \pm 105$            | 0.76         | $-34 \pm 103$             | 0.74         | nnn |
| CD-60 1974      | MS:A1          | 068.D-0403 | 52 310.180 | 600R  | $-251 \pm 115$            | 0.82         | $-242 \pm 111$            | 0.76         | nnn |
| CD-60 1975      | MS:B9          | 068.D-0403 | 52 309.160 | 600R  | $73 \pm 89$               | 0.88         | $207 \pm 89$              | 0.88         | nnn |
| CD-60 1976      | MS:A0          | 068.D-0403 | 52 309.293 | 600R  | $-135 \pm 122$            | 0.87         | $78 \pm 112$              | 0.77         | nnn |
| CD-60 1978      | MS:B8          | 068.D-0403 | 52 309.293 | 600R  | $388 \pm 171$             | 0.98         | $-332 \pm 157$            | 0.80         | nnn |
| CD-60 1979      | MS:A3          | 068.D-0403 | 52 310.323 | 600R  | $-233 \pm 220$            | 0.88         | $310 \pm 240$             | 1.06         | nnn |
| CD-60 1981      | MS:A1:AM       | 068.D-0403 | 52 310.323 | 600R  | $171 \pm 142$             | 1.04         | $-64 \pm 146$             | 1.10         | nnn |
| NGC 2516 DAC801 | UNCLASSIFIED   | 068.D-0403 | 52 309.160 | 600R  | $-62 \pm 170$             | 0.96         | $119 \pm 165$             | 0.90         | nnn |
| V420 Car        | MS:A3          | 068.D-0403 | 52 310.180 | 600R  | $-169 \pm 122$            | 0.69         | $-8 \pm 127$              | 0.74         | nnn |
| NGC 2516 SBL832 | UNCLASSIFIED   | 068.D-0403 | 52 309.293 | 600R  |                           |              |                           |              | -   |
| HD 66137        | MS:B9          | 068.D-0403 | 52 309.293 | 600R  | $-165 \pm 142$            | 1.00         | $-55 \pm 120$             | 0.71         | nnn |
| HD 66194        | MS:B2:PE       | 068.D-0403 | 52 309.160 | 600R  |                           |              |                           |              | -   |
| CD-60 1996      | MS:A8          | 068.D-0403 | 52 310.214 | 600R  | $528 \pm 134$             | 0.79         | $-120 \pm 132$            | 0.77         | nnd |
| CD-60 1996      | MS:A8          | 070.D-0352 | 52 679.271 | 600R  | $203 \pm 103$             | 0.81         | $-148 \pm 102$            | 0.79         | nnn |
| CD-60 1997      | MS:F2          | 068.D-0403 | 52 310.214 | 600R  | $41 \pm 52$               | 0.79         | $25 \pm 49$               | 0.69         | nnn |
| CD-60 1997      | MS:F2          | 070.D-0352 | 52 679.271 | 600R  | $121 \pm 43$              | 0.92         | $-10 \pm 41$              | 0.82         | nnn |
| CD-60 1999      | MS:A2          | 068.D-0403 | 52 310.214 | 600R  | $-106 \pm 148$            | 0.79         | $-432 \pm 151$            | 0.82         | nnn |
| CD-60 1999      | MS:A2          | 070.D-0352 | 52 679.271 | 600R  | $-95 \pm 155$             | 0.81         | $183 \pm 146$             | 0.73         | nnn |
| HD 66295        | MS:B8:M.AP     | 068.D-0403 | 52 310.214 | 600R  | $-635 \pm 66$             | 1.04         | $15 \pm 53$               | 0.67         | DDD |
| HD 66295        | MS:B8:M.AP     | 070.D-0352 | 52 679.271 | 600R  | $492 \pm 50$              | 1.16         | $15 \pm 42$               | 0.86         | dDD |
| HD 66318        | MS:A0:M.AP     | 068.D-0403 | 52 310.214 | 600R  | $6267 \pm 89$             | 3.65         | $-1 \pm 38$               | 0.78         | DDD |
| HD 66318        | MS:A0:M.AP     | 070.D-0352 | 52 679.271 | 600R  | $6480 \pm 91$             | 5.87         | $12 \pm 31$               | 0.78         | DDD |
| EGB5            | CP             | 072.D-0089 | 52 988.347 | 600B  | $-294 \pm 776$            | 1.00         | $-1278 \pm 1017$          | 1.13         | nnn |
| NGC 2546 258    | MS:A8:AP       | 073.D-0498 | 53 275.331 | 600B  | $-164 \pm 84$             | 0.79         | $-92 \pm 83$              | 0.80         | nnn |
| NGC 2546 258    | MS:A8:AP       | 074.D-0488 | 53 400.301 | 600B  | $3 \pm 54$                | 0.72         | $-148 \pm 55$             | 0.74         | nnn |
| [N75] 195       | MS:B5          | 074.D-0488 | 53 400.301 | 600B  | $79 \pm 57$               | 0.77         | $-52 \pm 53$              | 0.66         | nnn |
| CPD-37 1978     | MS:B4          | 073.D-0498 | 53 275.331 | 600B  | $82 \pm 83$               | 0.73         | $-55 \pm 79$              | 0.68         | nnn |
| CPD-37 1978     | MS:B4          | 074.D-0488 | 53 400.301 | 600B  | $100 \pm 72$              | 0.70         | $-109 \pm 73$             | 0.72         | nnn |
| [N75] 196       | MS:B3          | 073.D-0498 | 53 275.331 | 600B  | $268 \pm 152$             | 0.82         | $-292 \pm 140$            | 0.70         | nnn |
| [N75] 196       | MS:B3          | 074.D-0488 | 53 400.301 | 600B  | $-28 \pm 112$             | 0.76         | $6 \pm 108$               | 0.70         | nnn |
| CD-37 4353      | MS:B7          | 074.D-0488 | 53 399.286 | 600B  | $-132 \pm 60$             | 0.73         | $-64 \pm 60$              | 0.74         | nnn |
| CD-37 4355      | MS:B8:M        | 074.D-0488 | 53 399.286 | 600B  | $363 \pm 56$              | 1.01         | $-68 \pm 54$              | 0.96         | DdD |
| HD 68695        | PM:A0          | 074.C-0442 | 53 332.277 | 600B  | $-84 \pm 100$             | 0.95         | $30 \pm 103$              | 1.02         | nnn |
| CPD-37 1989     | MS:A2          | 074.D-0488 | 53 399.286 | 600B  | $-49 \pm 73$              | 0.80         | $-105 \pm 71$             | 0.77         | nnn |
| HD 68826        | GS:B9:EB       | 075.D-0295 | 53 454.077 | 1200g | $106 \pm 68$              | 0.93         | $246 \pm 68$              | 0.93         | nnn |
| GJ 299          | MS:M4:HPM      | 082.D-0695 | 54 831.374 | 300V  | $213 \pm 390$             | 0.99         |                           |              | -nn |
| HD 69003        | MS:A0          | 073.D-0498 | 53 275.370 | 600B  | $-38 \pm 44$              | 0.64         | $-23 \pm 42$              | 0.59         | nnn |
| HD 69004        | MS:B9:AP       | 073.D-0498 | 53 275.370 | 600B  | $-59 \pm 44$              | 0.66         | $-53 \pm 43$              | 0.66         | nnn |



Table 5. continued.

| Star         | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 69144     | MS:B2:SPB       | 072.D-0377 | 52 989.350 | 600B  | $83 \pm 63$               | 0.90         | $-19 \pm 59$              | 0.78         | nnn |
| HD 69144     | MS:B2:SPB       | 078.D-0140 | 54 061.342 | 600B  | $-1 \pm 65$               | 0.98         | $18 \pm 63$               | 0.92         | nnn |
| HD 69067     | MS:B8:M.AP      | 073.D-0498 | 53 115.979 | 600B  | $708 \pm 58$              | 1.03         | $-61 \pm 55$              | 0.90         | DDD |
| HD 69067     | MS:B8:M.AP      | 073.D-0498 | 53 277.369 | 600B  | $453 \pm 54$              | 0.93         | $54 \pm 53$               | 0.90         | DDD |
| HD 71066     | MS:A0:AP?       | 072.D-0377 | 53 002.097 | 600B  | $56 \pm 55$               | 0.90         | $45 \pm 59$               | 0.87         | nnn |
| HD 72106A    | PM:A0:M         | 074.C-0442 | 53 332.296 | 600B  | $196 \pm 58$              | 0.86         | $-124 \pm 56$             | 0.82         | nnd |
| HD 72106B    | PM:A0:E         | 074.C-0442 | 53 332.314 | 600B  | $147 \pm 75$              | 0.95         | $67 \pm 71$               | 0.85         | nnn |
| HD 74169     | MS:A1:AP        | 070.D-0352 | 52 678.218 | 600B  | $-210 \pm 43$             | 0.90         | $118 \pm 41$              | 0.81         | nnd |
| HD 74169     | MS:A1:AP        | 272.D-5026 | 53 066.195 | 600B  | $-147 \pm 44$             | 0.94         | $1 \pm 43$                | 0.89         | nnd |
| HD 74168     | MS:B9:AP        | 072.D-0377 | 53 002.111 | 600B  | $-80 \pm 67$              | 0.84         | $13 \pm 68$               | 0.89         | nnn |
| HD 74195     | MS:B3:SPB       | 072.D-0377 | 53 002.126 | 600B  | $-62 \pm 59$              | 0.91         | $41 \pm 58$               | 0.89         | nnn |
| HD 74195     | MS:B3:SPB       | 073.D-0466 | 53 138.972 | 600B  | $97 \pm 73$               | 0.96         | $-194 \pm 70$             | 0.87         | nnn |
| HD 74195     | MS:B3:SPB       | 073.D-0466 | 53 143.972 | 600B  | $160 \pm 55$              | 1.01         | $-226 \pm 57$             | 1.12         | dnn |
| HD 74195     | MS:B3:SPB       | 075.D-0295 | 53 455.080 | 1200g | $-7 \pm 43$               | 1.05         | $-5 \pm 40$               | 0.91         | nnn |
| HD 74195     | MS:B3:SPB       | 078.D-0140 | 54 108.330 | 600B  | $-77 \pm 47$              | 0.92         | $-23 \pm 47$              | 0.93         | nnn |
| HD 74196     | MS:B7:HEW       | 072.D-0377 | 52 906.388 | 600B  | $223 \pm 132$             | 1.04         | $252 \pm 124$             | 0.92         | nnn |
| HD 74195     | MS:B3:SPB       | 075.D-0295 | 53 454.107 | 1200g | $-21 \pm 50$              | 0.99         | $-102 \pm 49$             | 0.94         | nnn |
| WD 0839-327  | WD:DA6          | 070.D-0259 | 52 608.319 | 600B  | $349 \pm 249$             | 0.85         | $279 \pm 287$             | 0.91         | n-n |
| HD 74535     | MS:B9:AP        | 070.D-0352 | 52 678.232 | 600B  | $-110 \pm 60$             | 0.88         | $52 \pm 58$               | 0.82         | nnn |
| HD 74560     | MS:B3:SPB.SB    | 072.D-0377 | 53 002.141 | 600B  | $249 \pm 87$              | 0.91         | $44 \pm 85$               | 0.87         | dnn |
| HD 74560     | MS:B3:SPB.SB    | 073.D-0466 | 53 143.986 | 600B  | $-150 \pm 60$             | 1.05         | $-106 \pm 55$             | 0.87         | nnn |
| HD 74560     | MS:B3:SPB.SB    | 078.D-0140 | 54 108.347 | 600B  | $-87 \pm 56$              | 0.88         | $-118 \pm 57$             | 0.90         | nnn |
| HD 74575     | GS:B1:BCEP      | 078.D-0140 | 54 082.341 | 600B  | $-130 \pm 64$             | 0.90         | $-171 \pm 67$             | 1.00         | nnn |
| HD 74575     | GS:B1:BCEP      | 078.D-0140 | 54 109.150 | 600B  | $-241 \pm 73$             | 1.07         | $-14 \pm 64$              | 0.85         | dnd |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 464.359 | 600B  | $-748 \pm 68$             | 2.45         | $-21 \pm 36$              | 0.72         | DdD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 482.266 | 600B  | $-9240 \pm 104$           | 1.54         | $62 \pm 75$               | 0.82         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 483.108 | 600B  | $-9622 \pm 82$            | 3.22         | $-80 \pm 39$              | 0.75         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 493.203 | 600B  | $-1168 \pm 64$            | 2.89         | $-39 \pm 32$              | 0.75         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 516.231 | 600B  | $-4666 \pm 66$            | 2.70         | $68 \pm 35$               | 0.77         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 526.063 | 600B  | $-3762 \pm 72$            | 2.54         | $69 \pm 38$               | 0.73         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 527.079 | 600B  | $-10 349 \pm 83$          | 3.63         | $-33 \pm 37$              | 0.74         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 532.221 | 600B  | $-5978 \pm 78$            | 1.76         | $12 \pm 51$               | 0.78         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 539.269 | 600B  | $-10 249 \pm 89$          | 2.66         | $92 \pm 47$               | 0.77         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 543.073 | 600B  | $-9645 \pm 84$            | 3.34         | $25 \pm 39$               | 0.74         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 546.020 | 600B  | $-2016 \pm 75$            | 2.06         | $6 \pm 45$                | 0.77         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 555.029 | 600B  | $-8661 \pm 78$            | 3.83         | $-56 \pm 34$              | 0.75         | DDD |
| HD 75049     | MS:A0:M.AP      | 080.D-0170 | 54 557.117 | 600B  | $-1979 \pm 66$            | 2.78         | $14 \pm 35$               | 0.78         | DDD |
| HD 75239     | MS:B9:AP        | 074.D-0488 | 53 399.342 | 600B  | $-36 \pm 75$              | 0.86         | $-139 \pm 78$             | 0.95         | nnn |
| NLTT 20389   | WD:DC:HPM       | 080.D-0521 | 54 485.193 | 600B  |                           |              |                           |              | -   |
| HD 75989     | MS:B9:AP        | 072.D-0377 | 52 992.341 | 600B  | $-337 \pm 154$            | 0.89         | $120 \pm 158$             | 0.93         | nnn |
| HD 75989     | MS:B9:AP        | 072.D-0377 | 53 004.284 | 600B  | $-175 \pm 72$             | 0.81         | $34 \pm 78$               | 0.80         | nnn |
| HD 76534     | PM:B2:E         | 072.C-0447 | 53 062.222 | 600B  | $-32 \pm 54$              | 1.08         | $-60 \pm 53$              | 1.05         | nnn |
| HD 76534     | PM:B2:E         | 072.C-0447 | 53 063.262 | 600B  | $84 \pm 49$               | 0.94         | $76 \pm 50$               | 1.04         | nnn |
| HD 76431     | SD:B            | 072.D-0290 | 53 058.255 | 600B  | $55 \pm 74$               | 0.91         | $37 \pm 73$               | 0.85         | nnn |
| WD 0859-039  | WD:DA2          | 070.D-0259 | 52 674.227 | 600B  | $-106 \pm 790$            | 1.16         | $-836 \pm 770$            | 1.11         | n-n |
| WD 0859-039  | WD:DA2          | 070.D-0259 | 52 696.219 | 600B  | $-1452 \pm 739$           | 1.13         | $-49 \pm 688$             | 0.97         | n-n |
| Ve 6-23      | PM:OB:LPS       | 060.A-9203 | 51 880.381 | 600R  |                           |              |                           |              | -   |
| Ve 6-23      | PM:OB:LPS       | 060.A-9203 | 54 177.162 | 300V  |                           |              |                           |              | -   |
| Ve 6-23      | PM:OB:LPS       | 060.A-9203 | 54 176.224 | 300I  |                           |              |                           |              | -   |
| Ve 6-23      | PM:OB:LPS       | 060.A-9203 | 53 863.957 | 600B  |                           |              |                           |              | -   |
| Ve 6-23      | PM:OB:LPS       | 060.A-9203 | 54 176.055 | 300I  |                           |              |                           |              | -   |
| Ve 6-23      | PM:OB:LPS       | 073.D-0322 | 53 147.973 | 300V  |                           |              |                           |              | -   |
| Ve 6-23      | PM:OB:LPS       | 082.D-0695 | 54 830.382 | 300V  |                           |              |                           |              | -   |
| HD 79351     | MS:B2:E         | 075.D-0507 | 53 455.095 | 1200g | $-196 \pm 167$            | 2.06         | $-216 \pm 199$            | 1.99         | ndn |
| PG 0909+276  | SD:B            | 072.D-0290 | 53 058.139 | 600B  | $66 \pm 179$              | 1.03         | $-132 \pm 215$            | 1.10         | nnn |
| SZ Hya       | MS:A:RR         | 082.D-0342 | 54 781.361 | 1200B | $118 \pm 51$              | 1.16         | $62 \pm 46$               | 1.00         | nnn |
| HD 80316     | MS:A3:AP        | 072.D-0377 | 52 992.357 | 600B  | $-249 \pm 89$             | 0.86         | $-162 \pm 91$             | 0.91         | nnn |
| NLTT 21844   | WD:DA7:HPM      | 080.D-0521 | 54 526.087 | 600B  | $-1343 \pm 2863$          | 0.76         |                           |              | n-n |
| HD 298537    | MS:A8           | 074.D-0488 | 53 400.324 | 600B  | $-373 \pm 165$            | 0.71         | $139 \pm 160$             | 0.66         | nnn |
| HD 83002     | MS:B9:AP        | 074.D-0488 | 53 400.324 | 600B  | $-24 \pm 58$              | 0.67         | $-98 \pm 56$              | 0.63         | nnn |
| HD 298536    | MS:A0           | 074.D-0488 | 53 400.324 | 600B  | $17 \pm 157$              | 0.76         | $-71 \pm 152$             | 0.71         | nnn |
| HD 83368     | MS:A8:M.AP.ROAP | 069.D-0210 | 52 383.036 | 600B  | $1002 \pm 29$             | 12.11        | $-3 \pm 9$                | 1.19         | DDD |
| HD 83368     | MS:A8:M.AP.ROAP | 069.D-0210 | 52 383.107 | 600R  | $963 \pm 56$              | 1.92         | $57 \pm 45$               | 1.01         | nDD |
| WD 0935-371A | WD:DA6          | 082.D-0736 | 54 786.285 | 600B  |                           |              |                           |              | -   |

Table 5. continued.

| Star               | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 83625           | MS:A0:M.AP     | 072.D-0377 | 53 008.323 | 600B  | $-1245 \pm 77$            | 0.97         | $16 \pm 73$               | 0.85         | DDD |
| HD 84041           | MS:A5:M.AP     | 072.D-0377 | 53 002.170 | 600B  | $640 \pm 52$              | 1.03         | $-69 \pm 49$              | 0.92         | DDD |
| HD 85567           | PM:B2:E        | 072.C-0447 | 53 064.229 | 600B  | $-427 \pm 209$            | 0.78         | $114 \pm 219$             | 0.84         | n-n |
| HD 85567           | PM:B5:E        | 081.C-0410 | 54 609.012 | 600B  | $-223 \pm 102$            | 0.78         | $-10 \pm 102$             | 0.80         | nnn |
| LS 1362            | CP             | 072.D-0089 | 52 989.309 | 600B  | $-107 \pm 384$            | 0.87         | $-273 \pm 501$            | 0.99         | nnn |
| HD 85953           | GS:B2:SPB      | 072.D-0377 | 53 002.152 | 600B  | $48 \pm 52$               | 0.86         | $23 \pm 52$               | 0.88         | nnn |
| HD 85953           | GS:B2:SPB      | 073.D-0466 | 53 152.971 | 600B  | $159 \pm 51$              | 0.88         | $45 \pm 65$               | 0.96         | ndd |
| HD 85953           | GS:B2:SPB      | 075.D-0295 | 53 454.139 | 1200g | $-57 \pm 26$              | 1.06         | $19 \pm 24$               | 0.91         | nnn |
| HD 85953           | GS:B2:SPB      | 075.D-0295 | 53 455.113 | 1200g | $-7 \pm 29$               | 0.94         | $65 \pm 34$               | 0.90         | nnn |
| HD 85953           | GS:B2:SPB      | 078.D-0140 | 54 156.097 | 600B  | $13 \pm 33$               | 0.96         | $24 \pm 32$               | 0.92         | nnn |
| HD 86181           | MS:F0:M.AP     | 072.D-0377 | 53 002.193 | 600B  | $536 \pm 58$              | 1.30         | $75 \pm 52$               | 1.03         | DDD |
| HD 86199           | MS:B9:M.AP     | 072.D-0377 | 53 003.345 | 600B  | $-800 \pm 72$             | 0.96         | $-43 \pm 68$              | 0.85         | DDD |
| WD 0958-073        | SD:B           | 065.H-0293 | 51 729.991 | 150I  |                           |              |                           |              | -   |
| HD 87241           | MS:B9:AP       | 073.D-0498 | 53 134.080 | 600B  | $-7 \pm 56$               | 0.96         | $-21 \pm 57$              | 0.96         | nnn |
| HD 87240           | MS:B9:AP       | 070.D-0352 | 52 678.302 | 600B  | $-254 \pm 43$             | 0.66         | $-45 \pm 43$              | 0.66         | DdD |
| HD 87266           | MS:B3          | 070.D-0352 | 52 678.265 | 600B  | $20 \pm 29$               | 0.74         | $-1 \pm 27$               | 0.66         | nnn |
| NGC 3114 L54       | MS:B9          | 070.D-0352 | 52 678.302 | 600B  | $-108 \pm 73$             | 0.70         | $67 \pm 72$               | 0.67         | nnn |
| CPD-59 1698        | MS:A1          | 070.D-0352 | 52 678.265 | 600B  | $-9 \pm 101$              | 0.71         | $-129 \pm 103$            | 0.75         | nnn |
| CPD-59 1700        | MS:A3          | 070.D-0352 | 52 678.302 | 600B  | $265 \pm 116$             | 0.70         | $85 \pm 118$              | 0.71         | nnn |
| CPD-59 1703        | MS:A0          | 070.D-0352 | 52 678.265 | 600B  | $-117 \pm 87$             | 0.67         | $19 \pm 84$               | 0.65         | nnn |
| HD 304841          | MS:B8:M.AP     | 070.D-0352 | 52 678.265 | 600B  | $-339 \pm 63$             | 0.79         | $-170 \pm 58$             | 0.68         | ddD |
| NGC 3114 AR109     | MS:A0          | 070.D-0352 | 52 678.265 | 600B  | $-2634 \pm 562$           | 1.13         | $1980 \pm 594$            | 1.26         | dnd |
| HD 304842          | MS:B9:AP       | 070.D-0352 | 52 678.265 | 600B  | $347 \pm 91$              | 1.10         | $486 \pm 90$              | 1.02         | dnd |
| HD 87405           | MS:B9:AP       | 070.D-0352 | 52 678.265 | 600B  | $-66 \pm 33$              | 0.73         | $2 \pm 31$                | 0.67         | nnn |
| HD 87403           | PM:A1          | 074.C-0442 | 53 331.339 | 600B  | $-24 \pm 43$              | 0.89         | $12 \pm 40$               | 0.80         | nnn |
| HD 87752           | MS:B9:HGMN     | 072.D-0377 | 53 008.304 | 600B  | $35 \pm 99$               | 0.91         | $-90 \pm 98$              | 0.88         | nnn |
| HD 88158           | MS:B8:M.AP     | 072.D-0377 | 53 008.338 | 600B  | $320 \pm 67$              | 0.90         | $1 \pm 66$                | 0.88         | ndd |
| HD 88385           | MS:A0:M.AP     | 072.D-0377 | 53 010.181 | 600B  | $-1160 \pm 55$            | 1.28         | $-26 \pm 43$              | 0.78         | DDD |
| HD 88661           | MS:B2:PE       | 077.D-0406 | 53 889.996 | 600B  | $112 \pm 114$             | 0.95         | $-164 \pm 118$            | 0.98         | nnn |
| WZ Hya             | MS:A:RR        | 082.D-0342 | 54 782.355 | 1200B | $83 \pm 45$               | 1.41         | $-78 \pm 41$              | 1.20         | ndn |
| HD 89103           | MS:B9:M.AP     | 072.D-0377 | 53 010.202 | 600B  | $-2136 \pm 70$            | 1.14         | $78 \pm 62$               | 0.91         | DDD |
| HD 89385           | MS:B9:AP       | 072.D-0377 | 53 010.218 | 600B  | $-93 \pm 66$              | 1.01         | $-91 \pm 65$              | 0.98         | nnn |
| HD 89856           | ?:B9           | 068.D-0403 | 52 309.389 | 600R  | $-131 \pm 88$             | 0.81         | $-32 \pm 82$              | 0.74         | nnn |
| HD 298051          | MS:A1          | 068.D-0403 | 52 309.389 | 600R  | $-347 \pm 144$            | 0.71         | $6 \pm 139$               | 0.66         | nnn |
| 10:21:01 -51:53:27 | UNCLASSIFIED   | 068.D-0403 | 52 309.389 | 600R  | $893 \pm 427$             | 1.13         | $27 \pm 395$              | 0.96         | nnn |
| 10:21:05 -51:44:07 | UNCLASSIFIED   | 068.D-0403 | 52 310.359 | 600R  | $-2354 \pm 765$           | 1.96         | $1166 \pm 794$            | 2.14         | ndd |
| HD 89901           | GS:B8          | 068.D-0403 | 52 310.359 | 600R  | $40 \pm 117$              | 0.93         | $-79 \pm 107$             | 0.78         | nnn |
| HD 89900           | MS:A0          | 068.D-0403 | 52 310.359 | 600R  | $25 \pm 98$               | 0.80         | $61 \pm 95$               | 0.76         | nnn |
| 10:21:16 -51:51:32 | UNCLASSIFIED   | 068.D-0403 | 52 309.389 | 600R  |                           |              |                           |              | -   |
| CPD-51 3235        | UNCLASSIFIED   | 068.D-0403 | 52 309.389 | 600R  | $-110 \pm 177$            | 0.69         | $-10 \pm 178$             | 0.69         | nnn |
| HD 89915           | MS:B9          | 068.D-0403 | 52 310.359 | 600R  | $-180 \pm 103$            | 0.86         | $9 \pm 96$                | 0.74         | nnn |
| NGC 3228 SC15      | UNCLASSIFIED   | 068.D-0403 | 52 309.389 | 600R  | $-348 \pm 319$            | 0.98         | $-48 \pm 329$             | 1.05         | nnn |
| HD 298047          | MS:B9          | 068.D-0403 | 52 310.359 | 600R  | $69 \pm 150$              | 0.92         | $18 \pm 138$              | 0.89         | nnn |
| HD 89922           | MS:A4          | 068.D-0403 | 52 309.389 | 600R  | $-38 \pm 86$              | 0.89         | $13 \pm 76$               | 0.70         | nnn |
| HD 89938           | ?:A            | 068.D-0403 | 52 310.359 | 600R  | $-21 \pm 141$             | 0.96         | $17 \pm 135$              | 0.87         | nnn |
| HD 89937           | ?:B6           | 068.D-0403 | 52 310.359 | 600R  | $160 \pm 139$             | 0.83         | $-80 \pm 133$             | 0.76         | nnn |
| HD 89956           | MS:B9          | 068.D-0403 | 52 310.389 | 600R  | $225 \pm 563$             | 3.73         | $-41 \pm 501$             | 2.95         | nnn |
| 10:21:38 -51:41:44 | UNCLASSIFIED   | 068.D-0403 | 52 310.359 | 600R  | $-879 \pm 434$            | 1.62         | $400 \pm 445$             | 1.68         | nnn |
| CPD-51 3249        | MS:A8          | 070.D-0352 | 52 679.343 | 600B  | $-37 \pm 113$             | 0.75         | $185 \pm 115$             | 0.75         | nnn |
| HD 298053          | MS:A3:AM       | 070.D-0352 | 52 679.343 | 600B  | $77 \pm 64$               | 0.69         | $-40 \pm 66$              | 0.73         | nnn |
| HD 298045          | ?:M3           | 070.D-0352 | 52 679.343 | 600B  | $208 \pm 38$              | 1.01         | $19 \pm 29$               | 0.60         | -DD |
| 10:21:57 -51:49:06 | ?:K            | 070.D-0352 | 52 679.343 | 600B  | $255 \pm 120$             | 0.83         | $71 \pm 113$              | 0.72         | -nn |
| HD 298054          | ?:G0           | 070.D-0352 | 52 679.343 | 600B  | $34 \pm 18$               | 0.91         | $-41 \pm 16$              | 0.72         | -nn |
| HD 90264           | MS:B8          | 071.D-0308 | 52 824.019 | 600B  | $242 \pm 130$             | 1.14         | $127 \pm 133$             | 1.19         | nnn |
| HD 91375           | MS:A2          | 073.D-0464 | 53 116.028 | 600B  | $-65 \pm 47$              | 1.19         | $17 \pm 40$               | 0.95         | nnn |
| HD 91239           | MS:B9:AP       | 073.D-0464 | 53 118.059 | 600B  | $-134 \pm 59$             | 0.94         | $22 \pm 58$               | 0.87         | nnn |
| HD 91465           | MS:B4:E        | 077.D-0406 | 53 890.044 | 600B  | $179 \pm 109$             | 1.45         | $194 \pm 106$             | 1.37         | nnn |
| CD-34 6792         | MS:F:HPM       | 082.D-0695 | 54 830.376 | 300V  | $-763 \pm 1187$           | 0.86         |                           |              | nnn |
| CD-34 6792         | MS:F:HPM       | 082.D-0695 | 54 831.383 | 300V  | $1189 \pm 1027$           | 0.80         |                           |              | nnn |
| HD 92106           | MS:A0:AP       | 073.D-0464 | 53 118.080 | 600B  | $-128 \pm 66$             | 1.04         | $-84 \pm 64$              | 0.97         | nnn |
| HD 92106           | MS:A0:AP       | 072.D-0377 | 53 010.239 | 600B  | $32 \pm 76$               | 0.94         | $196 \pm 77$              | 0.95         | nnn |
| HD 92190           | MS:B8          | 074.D-0488 | 53 400.386 | 600B  | $-15 \pm 58$              | 0.68         | $-49 \pm 56$              | 0.64         | nnn |
| HD 303107          | MS:A0          | 074.D-0488 | 53 400.386 | 600B  | $-170 \pm 107$            | 0.66         | $-33 \pm 105$             | 0.64         | nnn |
| HD 92287           | MS:B3:SPB      | 072.D-0377 | 53 008.352 | 600B  | $-26 \pm 57$              | 0.92         | $-4 \pm 55$               | 0.85         | nnn |

Table 5. continued.

| Star             | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|------------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 92287         | MS:B3:SPB      | 073.D-0466 | 53 134.028 | 600B  | $6 \pm 50$                | 0.95         | $-40 \pm 48$              | 0.86         | nnn |
| HD 92385         | MS:B9:M.AP     | 072.D-0377 | 53 008.369 | 600B  | $-556 \pm 89$             | 0.92         | $334 \pm 89$              | 0.92         | DnD |
| HD 92385         | MS:B9:M.AP     | 072.D-0377 | 53 020.332 | 600B  | $198 \pm 106$             | 1.05         | $-180 \pm 106$            | 1.02         | nnn |
| HD 92385         | MS:B9:M.AP     | 074.D-0488 | 53 399.395 | 600B  | $-543 \pm 56$             | 0.94         | $-8 \pm 55$               | 0.89         | DnD |
| HD 92499         | MS:A2:M.AP     | 072.D-0377 | 53 010.255 | 600B  | $-1737 \pm 141$           | 1.06         | $-198 \pm 130$            | 0.91         | nDD |
| HD 92499         | MS:A2:M.AP     | 072.D-0377 | 53 011.212 | 600B  | $-1649 \pm 80$            | 1.86         | $95 \pm 57$               | 0.92         | dDD |
| HD 92499         | MS:A2:M.AP     | 073.D-0464 | 53 118.095 | 600B  | $-1451 \pm 74$            | 1.51         | $-4 \pm 57$               | 0.90         | DDD |
| Collinder 228 30 | MS:B2          | 073.D-0498 | 53 153.002 | 600B  | $601 \pm 120$             | 0.69         | $-158 \pm 110$            | 0.58         | dnD |
| HD 305451        | MS:B9          | 073.D-0498 | 53 153.002 | 600B  | $-213 \pm 75$             | 0.59         | $-166 \pm 78$             | 0.63         | nnn |
| HD 305535        | MS:B2          | 073.D-0498 | 53 153.002 | 600B  | $-3 \pm 56$               | 0.66         | $108 \pm 54$              | 0.63         | nnn |
| HD 93030         | MS:B0:PSB      | 072.D-0377 | 53 012.231 | 600B  | $-87 \pm 101$             | 0.92         | $245 \pm 100$             | 0.90         | nnn |
| HD 93030         | MS:B0:PSB      | 278.D-5056 | 54 181.033 | 1200B | $-18 \pm 21$              | 1.63         | $7 \pm 18$                | 1.09         | nnn |
| HD 305543        | GS:B1          | 073.D-0498 | 53 153.002 | 600B  | $-46 \pm 114$             | 0.65         | $-123 \pm 117$            | 0.68         | nnn |
| WD 1042-690      | WD:DA3         | 070.D-0259 | 52 668.351 | 600B  | $-342 \pm 728$            | 1.10         | $-795 \pm 908$            | 1.16         | n-n |
| WD 1042-690      | WD:DA3         | 070.D-0259 | 52 674.273 | 600B  | $510 \pm 756$             | 1.35         | $1578 \pm 768$            | 0.96         | n-n |
| WD 1042-690      | WD:DA3         | 070.D-0259 | 52 695.301 | 600B  | $-144 \pm 586$            | 0.96         | $-541 \pm 731$            | 1.02         | n-n |
| HD 94509         | PM:A0          | 072.C-0447 | 53 064.266 | 600B  | $24 \pm 28$               | 1.01         | $-22 \pm 26$              | 0.87         | nnn |
| HD 94509         | PM:A0          | 272.C-5063 | 53 110.217 | 600B  | $9 \pm 22$                | 1.19         | $-17 \pm 20$              | 1.00         | nnn |
| HD 94509         | PM:A0          | 272.C-5063 | 53 111.999 | 600B  | $-8 \pm 22$               | 1.22         | $-7 \pm 19$               | 0.93         | nnn |
| HD 94660         | MS:A0:M.AP     | 068.D-0403 | 52 309.365 | 600B  | $-2565 \pm 61$            | 1.77         | $-25 \pm 46$              | 1.01         | DDD |
| HD 94660         | MS:A0:M.AP     | 068.D-0403 | 52 309.375 | 600R  | $-2905 \pm 56$            | 1.12         | $6 \pm 33$                | 0.41         | DDD |
| HD 94660         | MS:A0:M.AP     | 070.D-0352 | 52 678.404 | 600B  | $-2653 \pm 62$            | 1.99         | $36 \pm 42$               | 0.97         | DDD |
| HD 94660         | MS:A0:M.AP     | 072.C-0447 | 53 062.261 | 600B  | $-2616 \pm 63$            | 1.81         | $32 \pm 46$               | 0.97         | DDD |
| HD 94660         | MS:A0:M.AP     | 072.C-0447 | 53 062.272 | 600B  | $-2317 \pm 76$            | 1.61         | $-201 \pm 59$             | 0.98         | DDD |
| HD 94660         | MS:A0:M.AP     | 082.D-0342 | 54 782.376 | 1200B | $-2389 \pm 51$            | 4.20         | $-29 \pm 31$              | 1.07         | DDD |
| HD 94660         | MS:A0:M.AP     | 082.D-0342 | 54 782.381 | 1200B | $-2061 \pm 50$            | 2.82         | $9 \pm 30$                | 1.04         | DDD |
| HD 94660         | MS:A0:M.AP     | 060.A-9203 | 51 991.001 | 600B  | $-1980 \pm 49$            | 1.23         | $41 \pm 39$               | 0.76         | DDD |
| HD 94660         | MS:A0:M.AP     | 060.A-9203 | 54 181.147 | 1200B | $-1978 \pm 34$            | 3.44         | $-22 \pm 20$              | 1.28         | DDD |
| HD 94660         | MS:A0:M.AP     | 060.A-9203 | 54 181.161 | 600B  | $-1961 \pm 59$            | 1.90         | $-86 \pm 42$              | 1.00         | DDD |
| HD 94660         | MS:A0:M.AP     | 069.D-0210 | 52 383.122 | 600B  | $-2653 \pm 58$            | 3.11         | $49 \pm 33$               | 1.01         | DDD |
| HD 94660         | MS:A0:M.AP     | 069.D-0210 | 52 383.129 | 600R  | $-3262 \pm 76$            | 4.30         | $67 \pm 35$               | 0.95         | DDD |
| HD 94660         | MS:A0:M.AP     | 074.C-0442 | 53 332.361 | 600B  | $-2528 \pm 61$            | 2.78         | $46 \pm 38$               | 1.07         | DDD |
| HD 94660         | MS:A0:M.AP     | 074.C-0442 | 53 332.374 | 1200g | $-2520 \pm 38$            | 9.71         | $-11 \pm 13$              | 1.14         | DDD |
| HD 94660         | MS:A0:M.AP     | 074.D-0488 | 53 400.398 | 600B  | $-2488 \pm 57$            | 2.29         | $-23 \pm 34$              | 0.85         | DDD |
| HD 94660         | MS:A0:M.AP     | 079.D-0697 | 54 311.976 | 1200B | $-2007 \pm 146$           | 1.04         | $-101 \pm 175$            | 1.02         | DDD |
| HD 94660         | MS:A0:M.AP     | 081.D-0670 | 54 692.975 | 1200B | $-2029 \pm 41$            | 4.55         | $-33 \pm 19$              | 1.02         | DDD |
| HD 94660         | MS:A0:M.AP     | 081.D-0670 | 54 693.969 | 1200B | $-2110 \pm 49$            | 2.59         | $44 \pm 29$               | 0.96         | DDD |
| WD 1054-226      | WD:DA6:HPM     | 080.D-0521 | 54 532.264 | 600B  | $-3444 \pm 1589$          | 0.72         |                           |              | n-n |
| HD 95881         | PM:A1          | 072.C-0447 | 53 064.292 | 600B  | $-39 \pm 48$              | 0.86         | $29 \pm 50$               | 0.92         | nnn |
| HD 95881         | PM:A1          | 081.C-0410 | 54 609.993 | 600B  | $-101 \pm 29$             | 0.84         | $-31 \pm 28$              | 0.79         | nnd |
| HD 96042         | PM:B1:E        | 074.C-0442 | 53 330.367 | 600B  | $139 \pm 84$              | 0.93         | $17 \pm 82$               | 0.88         | nnn |
| HD 96040         | MS:A0:M.AP     | 074.D-0488 | 53 399.370 | 600B  | $-324 \pm 51$             | 1.05         | $25 \pm 49$               | 0.99         | DdD |
| HD 96451         | MS:A0:AP       | 073.D-0464 | 53 074.340 | 600B  | $2 \pm 36$                | 0.91         | $-67 \pm 35$              | 0.90         | nnn |
| HD 96441         | MS:A1          | 060.A-9203 | 51 993.053 | 600B  | $-58 \pm 69$              | 0.87         | $4 \pm 83$                | 0.86         | nnn |
| HD 96441         | MS:A1          | 079.D-0697 | 54 311.985 | 1200B | $-376 \pm 252$            | 1.02         | $64 \pm 303$              | 1.05         | nnn |
| HD 96441         | MS:A1          | 272.C-5063 | 53 112.086 | 600B  | $-88 \pm 39$              | 0.97         | $-55 \pm 37$              | 0.88         | dnn |
| HD 96441         | MS:A1          | 060.A-9203 | 51 993.012 | 600B  | $103 \pm 59$              | 0.87         | $-16 \pm 59$              | 0.86         | nnn |
| HD 96653         | GS:A0          | 073.D-0498 | 53 260.995 | 600B  | $96 \pm 37$               | 0.59         | $62 \pm 37$               | 0.61         | nnn |
| CPD-58 3151      | ?:G1           | 073.D-0498 | 53 260.995 | 600B  | $-12 \pm 51$              | 0.57         | $8 \pm 48$                | 0.51         | nnn |
| HD 96685         | MS:B8:E        | 073.D-0498 | 53 260.995 | 600B  | $1 \pm 74$                | 0.48         | $-50 \pm 75$              | 0.50         | nnn |
| HD 96729         | MS:B9:M.AP     | 073.D-0498 | 53 260.995 | 600B  | $1057 \pm 51$             | 0.62         | $5 \pm 47$                | 0.53         | DDD |
| HD 96790         | MS:A5          | 073.D-0498 | 53 260.995 | 600B  | $-179 \pm 86$             | 0.52         | $149 \pm 83$              | 0.50         | nnn |
| WD 1105-048      | WD:DA3         | 070.D-0259 | 52 641.351 | 600B  | $-36 \pm 563$             | 0.96         | $-1031 \pm 557$           | 0.94         | n-n |
| WD 1105-048      | WD:DA3         | 070.D-0259 | 52 669.305 | 600B  | $3240 \pm 646$            | 1.04         | $-906 \pm 648$            | 1.05         | D-D |
| HD 97048         | PM:A0:P.SH.E   | 072.C-0447 | 53 064.323 | 600B  | $-129 \pm 58$             | 0.97         | $58 \pm 56$               | 0.95         | dnn |
| HD 97048         | PM:A0:P.SH.E   | 074.C-0442 | 53 331.370 | 600B  | $-157 \pm 85$             | 1.04         | $73 \pm 81$               | 0.95         | nnn |
| HD 97048         | PM:A0:P.SH.E   | 081.C-0410 | 54 609.138 | 600B  | $114 \pm 63$              | 0.79         | $123 \pm 78$              | 0.79         | nnn |
| HD 97048         | PM:A0:P.SH.E   | 272.C-5063 | 53 110.163 | 600B  | $52 \pm 61$               | 1.04         | $-37 \pm 64$              | 1.15         | nnn |
| HD 97048         | PM:A0:P.SH.E   | 272.C-5063 | 53 110.188 | 600B  | $287 \pm 423$             | 1.06         | $22 \pm 438$              | 1.14         | nnn |
| HD 97048         | PM:A0:P.SH.E   | 272.C-5063 | 53 112.047 | 600B  | $15 \pm 57$               | 1.16         | $-1 \pm 51$               | 0.93         | nnn |
| HD 97048         | PM:A0:P.SH.E   | 272.C-5063 | 53 114.129 | 600B  | $-548 \pm 172$            | 1.09         | $-52 \pm 162$             | 0.97         | dnd |
| HD 97048         | PM:A0:P.SH.E   | 272.C-5063 | 53 115.131 | 600B  | $301 \pm 233$             | 1.10         |                           |              | nnn |
| HD 97048         | PM:A0:P.SH.E   | 272.C-5063 | 53 116.003 | 600B  | $-99 \pm 52$              | 0.95         | $44 \pm 50$               | 0.90         | nnn |



Table 5. continued.

| Star               | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 303821          | MS:A3:AP        | 074.D-0488 | 53 400.358 | 600B  | $-71 \pm 66$              | 0.98         | $230 \pm 63$              | 0.88         | nnn |
| HD 97300           | PM:B9           | 081.C-0410 | 54 609.047 | 600B  | $91 \pm 65$               | 0.85         | $-91 \pm 77$              | 0.79         | nnn |
| HD 97689           | MS:A0:AM        | 073.D-0322 | 53 149.976 | 300V  | $368 \pm 466$             | 0.79         | $661 \pm 517$             | 1.01         | nnn |
| HD 98340           | MS:B9:M.AP      | 073.D-0464 | 53 074.362 | 600B  | $1023 \pm 75$             | 0.96         | $-139 \pm 78$             | 1.03         | DDD |
| HD 98922           | PM:B9:E         | 072.C-0447 | 53 064.341 | 600B  | $14 \pm 90$               | 0.97         | $102 \pm 85$              | 0.85         | nnn |
| HD 99563           | MS:F0:M.AP.ROAP | 072.D-0377 | 53 012.246 | 600B  | $-446 \pm 83$             | 0.93         | $120 \pm 82$              | 0.90         | nDD |
| HD 99563           | MS:F0:M.AP.ROAP | 072.D-0377 | 53 015.225 | 600B  | $-561 \pm 99$             | 0.98         | $8 \pm 96$                | 0.93         | ddD |
| HD 99563           | MS:F0:M.AP.ROAP | 269.D-5044 | 52 493.989 | 600B  | $-517 \pm 192$            | 1.02         | $-162 \pm 182$            | 0.92         | nnn |
| HD 100453          | PM:A9:E         | 074.C-0442 | 53 332.347 | 600B  | $37 \pm 52$               | 0.83         | $-36 \pm 52$              | 0.84         | nnn |
| HD 100453          | PM:A9:E         | 081.C-0410 | 54 610.022 | 600B  | $-8 \pm 19$               | 0.82         | $-16 \pm 18$              | 0.75         | nnn |
| HD 100546          | PM:B9:E         | 072.C-0447 | 53 064.356 | 600B  | $277 \pm 111$             | 1.03         | $333 \pm 114$             | 1.08         | nnn |
| HD 100546          | PM:B9:E         | 081.C-0410 | 54 610.044 | 600B  | $-64 \pm 42$              | 0.81         | $-49 \pm 52$              | 1.06         | n-n |
| HD 306793          | MS:B2:E         | 080.D-0383 | 54 550.261 | 600B  | $-53 \pm 61$              | 0.77         | $43 \pm 72$               | 0.78         | nnn |
| CPD-60 3088        | MS:B2:HES       | 080.D-0383 | 54 549.245 | 600B  | $-10 \pm 47$              | 0.78         | $-30 \pm 57$              | 0.78         | nnn |
| HD 306795          | MS:B2:M.HEW     | 080.D-0383 | 54 550.187 | 600B  | $1644 \pm 39$             | 0.72         | $-56 \pm 47$              | 0.79         | DDD |
| CPD-60 3098        | MS:B2           | 080.D-0383 | 54 550.187 | 600B  | $412 \pm 275$             | 0.90         | $475 \pm 352$             | 0.97         | nnn |
| CPD-60 3117        | ?:F             | 080.D-0383 | 54 550.375 | 600B  | $164 \pm 242$             | 0.98         | $-379 \pm 303$            | 1.01         | nnn |
| HD 306797          | MS:B4:E         | 080.D-0383 | 54 550.375 | 600B  | $-1 \pm 51$               | 0.74         | $-16 \pm 60$              | 0.77         | nnn |
| CPD-60 3120        | MS:B3           | 080.D-0383 | 54 550.067 | 600B  | $-63 \pm 53$              | 0.71         | $-9 \pm 65$               | 0.73         | dnn |
| CPD-60 3125        | MS:B2:E         | 080.D-0383 | 54 550.017 | 600B  | $-155 \pm 66$             | 0.76         | $174 \pm 83$              | 0.78         | nnn |
| HD 306798          | MS:B2:E         | 080.D-0383 | 54 549.151 | 600B  | $21 \pm 38$               | 0.78         | $45 \pm 45$               | 0.74         | nnn |
| 11:36:11 -61:34:23 | MS:B4           | 080.D-0383 | 54 549.116 | 600B  | $-811 \pm 721$            | 1.26         | $1441 \pm 855$            | 1.14         | nnn |
| CPD-60 3128        | MS:B2:E         | 080.D-0383 | 54 549.116 | 600B  | $-51 \pm 35$              | 0.80         | $15 \pm 42$               | 0.78         | nnn |
| CPD-60 3131        | MS:B9           | 080.D-0383 | 54 549.116 | 600B  | $-207 \pm 442$            | 0.92         | $-22 \pm 561$             | 1.02         | nnn |
| CD-60 3626         | MS:B2:E         | 080.D-0383 | 54 549.194 | 600B  | $1 \pm 65$                | 0.97         | $-51 \pm 78$              | 1.00         | nnn |
| CPD-60 3134        | MS:B2:HES       | 080.D-0383 | 54 549.304 | 600B  | $-7 \pm 45$               | 0.77         | $-4 \pm 55$               | 0.79         | nnn |
| CD-60 3629         | MS:B2           | 080.D-0383 | 54 549.349 | 600B  | $-55 \pm 31$              | 0.77         | $11 \pm 38$               | 0.81         | ndn |
| CPD-60 3143        | MS:B2           | 080.D-0383 | 54 550.127 | 600B  | $0 \pm 40$                | 0.81         | $-91 \pm 47$              | 0.77         | nnn |
| HD 306791          | MS:B2:E         | 080.D-0383 | 54 549.021 | 600B  | $-111 \pm 61$             | 0.74         | $-59 \pm 64$              | 0.81         | nnn |
| CPD-60 3174        | MS:B3:HES       | 080.D-0383 | 54 550.327 | 600B  | $211 \pm 76$              | 0.83         | $-29 \pm 90$              | 0.81         | dnn |
| HD 100989          | MS:B2           | 080.D-0383 | 54 549.379 | 600B  | $9 \pm 40$                | 0.81         | $-24 \pm 46$              | 0.73         | nnn |
| HD 101065          | MS:F:M.AP.ROAP  | 069.D-0210 | 52 383.198 | 600B  | $-1458 \pm 97$            | 74.27        | $-8 \pm 11$               | 0.90         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 069.D-0210 | 52 383.260 | 600R  | $-1472 \pm 64$            | 7.81         | $2 \pm 23$                | 1.01         | dDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 197.342 | 600B  | $-1503 \pm 112$           | 5.59         | $92 \pm 42$               | 0.80         | dDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 209.266 | 600B  | $-1255 \pm 55$            | 5.59         | $-6 \pm 20$               | 0.73         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 222.098 | 600B  | $-1232 \pm 53$            | 8.19         | $5 \pm 16$                | 0.73         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 232.996 | 600B  | $-1237 \pm 54$            | 6.54         | $23 \pm 18$               | 0.74         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 246.985 | 600B  | $-1239 \pm 57$            | 7.70         | $-2 \pm 18$               | 0.76         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 254.082 | 600B  | $-1264 \pm 59$            | 4.62         | $2 \pm 23$                | 0.73         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 272.028 | 600B  | $-1209 \pm 53$            | 8.22         | $28 \pm 16$               | 0.74         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 280.979 | 600B  | $-1230 \pm 55$            | 5.48         | $-3 \pm 20$               | 0.76         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 297.033 | 600B  | $-1210 \pm 55$            | 6.56         | $-40 \pm 19$              | 0.77         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 079.D-0240 | 54 306.048 | 600B  | $-1184 \pm 58$            | 4.17         | $-24 \pm 24$              | 0.73         | DDD |
| HD 101065          | MS:F:M.AP.ROAP  | 270.D-5023 | 52 701.247 | 600B  | $-1362 \pm 96$            | 120.10       | $-4 \pm 8$                | 0.90         | dDD |
| HD 101412          | PM:B9:M         | 072.C-0447 | 53 062.299 | 600B  | $433 \pm 163$             | 0.97         | $-106 \pm 164$            | 0.99         | dnn |
| HD 101412          | PM:B9:M         | 081.C-0410 | 54 609.190 | 600B  | $-420 \pm 41$             | 0.83         | $-14 \pm 41$              | 0.85         | DnD |
| HD 101412          | PM:B9:M         | 081.C-0410 | 54 610.084 | 600B  | $-334 \pm 38$             | 0.82         | $33 \pm 37$               | 0.83         | DnD |
| WD 1143-013        | WD:DA8:HPM      | 080.D-0521 | 54 554.306 | 600B  | $-5761 \pm 2676$          | 0.88         |                           |              | n-n |
| WD 1145-451        | WD:DA8:HPM      | 080.D-0521 | 54 532.241 | 600B  | $5874 \pm 2714$           | 0.48         |                           |              | n-n |
| HD 102647          | MS:A3:CSD       | 074.C-0463 | 53 353.366 | 1200g | $72 \pm 47$               | 0.98         | $33 \pm 45$               | 0.87         | nnn |
| HD 102647          | MS:A3:CSD       | 074.C-0463 | 53 403.374 | 1200g | $-90 \pm 52$              | 0.93         | $-26 \pm 51$              | 0.89         | nnn |
| NLTT 28730         | WD:DA6:HPM      | 080.D-0521 | 54 553.325 | 600B  | $1288 \pm 2238$           | 0.82         |                           |              | n-n |
| NLTT 28730         | WD:DA6:HPM      | 080.D-0521 | 54 555.268 | 600B  | $2228 \pm 2075$           | 0.80         |                           |              | n-n |
| CD-22 9142         | SD:O            | 073.D-0356 | 53 134.112 | 600B  | $956 \pm 372$             | 0.94         | $351 \pm 417$             | 0.93         | nnn |
| CD-22 9142         | SD:O            | 073.D-0356 | 53 144.110 | 600B  | $23 \pm 588$              | 1.06         | $1387 \pm 631$            | 0.96         | nnn |
| HD 104237          | PM:A4:M.PE      | 072.C-0447 | 53 063.316 | 600B  | $102 \pm 73$              | 0.97         | $-51 \pm 70$              | 0.92         | nnn |
| HD 104237          | PM:A4:M.PE      | 072.C-0447 | 53 064.375 | 600B  | $-76 \pm 62$              | 0.97         | $38 \pm 69$               | 0.98         | nnn |
| HD 104237          | PM:A4:M.PE      | 074.C-0442 | 53 332.332 | 600B  | $79 \pm 62$               | 1.03         | $-7 \pm 58$               | 0.92         | nnn |
| HD 104321          | MS:A5:SB        | 074.C-0463 | 53 385.380 | 1200g | $62 \pm 26$               | 1.01         | $3 \pm 28$                | 0.92         | nnn |
| WD 1202-232        | WD:D6           | 073.D-0356 | 53 144.146 | 600B  | $-687 \pm 517$            | 1.12         | $710 \pm 501$             | 1.05         | n-n |
| WD 1202-232        | WD:D6           | 073.D-0356 | 53 147.179 | 600B  | $-185 \pm 344$            | 0.93         | $-602 \pm 362$            | 1.06         | n-n |
| WD 1202-232        | WD:D6           | 073.D-0356 | 53 150.997 | 600B  | $-64 \pm 369$             | 0.94         | $197 \pm 379$             | 0.97         | n-n |
| HD 105379          | MS:A0:AP        | 072.D-0377 | 53 011.250 | 600B  | $-17 \pm 67$              | 0.93         | $31 \pm 68$               | 0.94         | nnn |
| HD 105382          | GS:B6:M.HEW     | 072.D-0377 | 53 011.195 | 600B  | $-1114 \pm 94$            | 0.87         | $117 \pm 98$              | 0.96         | DDD |

Table 5. continued.

| Star               | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 105382          | GS:B6           | 073.D-0466 | 53 220.016 | 600B  | $0 \pm 93$                | 0.89         |                           |              | nnn |
| HD 105382          | GS:B6:M.HEW     | 072.D-0377 | 53 015.246 | 600B  | $-721 \pm 175$            | 0.93         | $-270 \pm 211$            | 0.94         | dnd |
| HD 105382          | GS:B6:M.HEW     | 073.D-0466 | 53 144.003 | 600B  | $-24 \pm 66$              | 0.90         | $-279 \pm 83$             | 0.97         | nnn |
| HD 105382          | GS:B6:M.HEW     | 073.D-0466 | 53 224.990 | 600B  | $-945 \pm 253$            | 1.32         | $10 \pm 246$              | 1.24         | dnd |
| HD 105435          | MS:B2:E         | 075.D-0507 | 53 475.129 | 1200g | $-142 \pm 111$            | 0.92         | $-171 \pm 116$            | 1.00         | nnn |
| HD 105435          | MS:B2:E         | 077.D-0406 | 53 869.232 | 600B  | $-60 \pm 47$              | 0.98         | $-6 \pm 50$               | 1.10         | nnn |
| HD 105770          | MS:B9:M.AP      | 072.D-0377 | 53 011.233 | 600B  | $437 \pm 96$              | 0.99         | $75 \pm 88$               | 0.84         | dnd |
| HD 105770          | MS:B9:M.AP      | 073.D-0464 | 53 120.145 | 600B  | $244 \pm 65$              | 0.90         | $-64 \pm 67$              | 0.94         | dnd |
| HD 105999          | MS:F1:AP        | 072.D-0377 | 53 011.270 | 600B  | $-32 \pm 83$              | 0.86         | $76 \pm 83$               | 0.87         | nnn |
| WD 1209-060        | WD:DA8          | 080.D-0521 | 54 555.305 | 600B  | $5253 \pm 2882$           | 0.65         |                           |              | n-n |
| HD 107696          | MS:B8:AP        | 071.D-0308 | 52 824.030 | 600B  | $-9 \pm 107$              | 0.90         | $-165 \pm 101$            | 0.80         | nnn |
| HD 107696          | MS:B8:AP        | 073.D-0464 | 53 074.375 | 600B  | $547 \pm 457$             | 1.14         | $-475 \pm 470$            | 1.20         | nnn |
| HD 107969          | CP              | 075.D-0289 | 53 525.093 | 600B  | $-431 \pm 398$            | 1.10         | $292 \pm 393$             | 1.10         | nnn |
| HD 107969          | CP              | 075.D-0289 | 53 526.072 | 600B  | $149 \pm 292$             | 1.13         | $335 \pm 297$             | 0.96         | nnn |
| HD 107969          | CP              | 075.D-0289 | 53 527.053 | 600B  | $651 \pm 345$             | 0.97         | $374 \pm 333$             | 0.89         | nnn |
| HD 108945          | MS:A3:M.AP      | 072.D-0377 | 53 015.335 | 600B  | $-55 \pm 87$              | 0.97         | $115 \pm 85$              | 0.93         | nnn |
| HD 109085          | MS:F2:CSD       | 074.C-0463 | 53 405.328 | 1200g | $-5 \pm 15$               | 0.88         | $-6 \pm 14$               | 0.80         | nnn |
| GJ 473 A           | MS:M5:FLS       | 082.D-0695 | 54 831.365 | 300V  |                           |              |                           |              | -   |
| HD 109573          | MS:A0:CSD       | 081.C-0410 | 54 610.116 | 600B  | $-7 \pm 36$               | 0.77         | $7 \pm 36$                | 0.77         | nnn |
| NLTT 31483         | WD:DA9:HPM      | 080.D-0521 | 54 556.282 | 600B  |                           |              |                           |              | -   |
| HD 111123          | GS:B0:BCEP      | 075.D-0295 | 53 455.151 | 1200g | $46 \pm 26$               | 1.11         | $-40 \pm 30$              | 0.94         | nnn |
| BS Cru             | MS:B1:BCEP      | 078.D-0140 | 54 155.209 | 600B  | $14 \pm 96$               | 0.97         | $-69 \pm 94$              | 0.94         | nnn |
| BS Cru             | MS:B1:BCEP      | 078.D-0140 | 54 157.202 | 600B  | $81 \pm 54$               | 0.87         | $22 \pm 56$               | 0.95         | nnn |
| HD 112244          | SG:O8           | 075.D-0432 | 53 455.190 | 600B  | $38 \pm 48$               | 1.07         | $-90 \pm 47$              | 0.90         | nnn |
| HD 112244          | SG:O8           | 075.D-0432 | 53 475.174 | 600B  | $67 \pm 78$               | 1.13         | $-46 \pm 71$              | 0.75         | nnn |
| HD 112244          | SG:O8           | 075.D-0432 | 53 483.104 | 600B  | $199 \pm 76$              | 0.90         | $106 \pm 70$              | 0.76         | nnn |
| HD 114365          | MS:A0:AP        | 071.D-0308 | 52 824.043 | 600B  | $88 \pm 68$               | 0.89         | $-128 \pm 84$             | 0.83         | nnn |
| HD 115226          | MS:A3:M.AP      | 073.D-0464 | 53 086.299 | 600B  | $703 \pm 40$              | 1.23         | $1 \pm 34$                | 0.87         | DDD |
| HD 115226          | MS:A3:M.AP      | 073.D-0464 | 53 074.389 | 600B  | $936 \pm 203$             | 0.85         |                           |              | ndd |
| WD 1316-215        | WD:DA8:HPM      | 080.D-0521 | 54 534.384 | 600B  |                           |              |                           |              | -   |
| HD 115440          | MS:B9:M.AP      | 073.D-0464 | 53 077.213 | 600B  | $3251 \pm 56$             | 1.84         | $12 \pm 43$               | 0.89         | DDD |
| HD 115892          | MS:A2:CSD       | 074.C-0463 | 53 405.347 | 1200g | $-54 \pm 27$              | 1.24         | $-29 \pm 26$              | 1.11         | nnn |
| HD 116890          | MS:B9:AP        | 071.D-0308 | 52 824.055 | 600B  | $-361 \pm 66$             | 0.90         | $101 \pm 65$              | 0.88         | dDD |
| HD 117025          | MS:A2:M.AP      | 071.D-0308 | 52 824.067 | 600B  | $603 \pm 59$              | 1.10         | $125 \pm 55$              | 0.94         | dDD |
| HD 117025          | MS:A2:M.AP      | 073.D-0464 | 53 120.164 | 600B  | $728 \pm 54$              | 1.57         | $-92 \pm 41$              | 0.93         | DDD |
| WD 1327-083        | WD:DA4          | 073.D-0356 | 53 151.033 | 600B  | $-365 \pm 467$            | 1.03         | $-65 \pm 584$             | 1.08         | n-n |
| WD 1327-083        | WD:DA4          | 073.D-0356 | 53 153.068 | 600B  | $-402 \pm 451$            | 0.96         | $-63 \pm 597$             | 1.04         | n-n |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 568.212 | 600B  | $192 \pm 24$              | 1.57         | $28 \pm 22$               | 1.36         | dDD |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 569.231 | 600B  | $24 \pm 18$               | 0.84         | $14 \pm 17$               | 0.74         | nnn |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 571.286 | 600B  | $138 \pm 21$              | 0.84         | $39 \pm 22$               | 0.75         | dDD |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 575.209 | 600B  | $233 \pm 20$              | 0.87         | $10 \pm 21$               | 0.73         | dDD |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 576.131 | 600B  | $91 \pm 18$               | 0.79         | $-16 \pm 19$              | 0.74         | ndd |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 577.177 | 600B  | $151 \pm 22$              | 0.81         | $3 \pm 23$                | 0.77         | nDD |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 578.165 | 600B  | $190 \pm 29$              | 0.77         | $-57 \pm 33$              | 0.75         | nDD |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 579.205 | 600B  | $100 \pm 24$              | 0.78         | $-65 \pm 26$              | 0.76         | ndd |
| HD 117555          | SG:G5:M.FKCOM   | 280.D-5075 | 54 582.186 | 600B  | $174 \pm 19$              | 0.80         | $37 \pm 20$               | 0.74         | nDD |
| HD 117357          | GS:B0:E         | 075.D-0507 | 53 507.995 | 1200g | $125 \pm 104$             | 0.99         | $-85 \pm 131$             | 1.00         | nnn |
| 07:09:18 -32:04:30 | ?:G             | 073.D-0516 | 53 134.050 | 600B  |                           |              |                           |              | -   |
| 07:09:18 -32:04:30 | ?:G             | 073.D-0516 | 53 137.010 | 600B  |                           |              |                           |              | -   |
| PN A66 36          | CP              | 072.D-0089 | 53 031.287 | 600B  | $144 \pm 477$             | 1.04         | $1642 \pm 502$            | 0.91         | nnn |
| PN A66 36          | CP              | 075.D-0289 | 53 525.004 | 600B  | $-35 \pm 160$             | 0.98         | $-425 \pm 161$            | 1.00         | nnn |
| PN A66 36          | CP              | 075.D-0289 | 53 525.972 | 600B  | $198 \pm 213$             | 0.99         | $-336 \pm 249$            | 0.95         | nnn |
| PN A66 36          | CP              | 075.D-0289 | 53 526.973 | 600B  | $258 \pm 224$             | 0.98         | $-267 \pm 264$            | 0.86         | nnn |
| HD 118913          | MS:A0:M.AP      | 071.D-0308 | 52 824.081 | 600B  | $-263 \pm 62$             | 0.94         | $-88 \pm 59$              | 0.84         | dnd |
| HD 118913          | MS:A0:M.AP      | 073.D-0464 | 53 120.181 | 600B  | $-516 \pm 32$             | 1.46         | $-3 \pm 26$               | 0.95         | DDD |
| HD 119308          | MS:A0:M.AP      | 073.D-0464 | 53 120.204 | 600B  | $-293 \pm 48$             | 1.13         | $13 \pm 41$               | 0.85         | dDD |
| HD 120324          | MS:B2:PE        | 075.D-0507 | 53 455.222 | 1200g | $286 \pm 342$             | 1.28         | $-299 \pm 451$            | 1.32         | nnn |
| HD 120324          | MS:B2:PE        | 077.D-0406 | 53 869.296 | 600B  | $-69 \pm 21$              | 0.82         | $-22 \pm 21$              | 0.75         | ndd |
| HD 120709          | MS:B5:PGA       | 072.D-0377 | 53 015.323 | 600B  | $118 \pm 83$              | 0.90         | $-1 \pm 83$               | 0.95         | nnn |
| CD-46 8926         | SD:O            | 072.D-0290 | 53 058.347 | 600B  | $-92 \pm 146$             | 1.16         | $-14 \pm 155$             | 1.18         | nnn |
| HD 120991          | GS:B2:E         | 075.D-0507 | 53 512.056 | 1200g | $-85 \pm 190$             | 1.65         | $-71 \pm 192$             | 1.70         | -nn |
| HD 122970          | MS:F0:M.AP.ROAP | 072.D-0377 | 53 015.350 | 600B  | $354 \pm 89$              | 1.03         | $-130 \pm 84$             | 0.92         | ndd |
| HD 122970          | MS:F0:M.AP.ROAP | 269.D-5044 | 52 494.006 | 600B  | $326 \pm 53$              | 1.03         | $32 \pm 49$               | 0.88         | ddD |
| CD-47 8861         | ?:G             | 073.D-0498 | 53 220.043 | 600B  | $-44 \pm 32$              | 0.64         | $-54 \pm 29$              | 0.53         | -nn |
| CD-47 8868         | MS:A0           | 073.D-0498 | 53 220.043 | 600B  | $-24 \pm 66$              | 0.51         | $54 \pm 64$               | 0.47         | nnn |

Table 5. continued.

| Star            | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-----------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 122983       | MS:B9           | 073.D-0498 | 53 220.043 | 600B  | 186 ± 40                  | 0.54         | 79 ± 39                   | 0.51         | dnd |
| NGC 5460 73     | ?:K5            | 073.D-0498 | 53 199.023 | 600B  | 71 ± 39                   | 0.51         | 96 ± 38                   | 0.49         | -nn |
| HD 123183       | MS:A0           | 073.D-0498 | 53 199.023 | 600B  | -470 ± 112                | 0.54         | 71 ± 108                  | 0.50         | dnd |
| HD 123201B      | MS:B9           | 073.D-0498 | 53 199.023 | 600B  | -70 ± 70                  | 0.49         | 92 ± 71                   | 0.51         | nnn |
| HD 123225       | MS:B8           | 073.D-0498 | 53 199.023 | 600B  | 127 ± 65                  | 0.58         | -42 ± 60                  | 0.49         | nnn |
| HD 123515       | MS:B9:SPB       | 071.D-0308 | 52 824.093 | 600B  | -80 ± 69                  | 0.87         | 88 ± 83                   | 0.87         | nnn |
| HD 123515       | MS:B9:SPB       | 075.D-0295 | 53 454.179 | 1200g | -47 ± 28                  | 1.04         | 13 ± 26                   | 0.91         | nnn |
| HD 125630       | MS:A2:M.AP      | 071.D-0308 | 52 824.107 | 600B  | 735 ± 52                  | 1.02         | 103 ± 49                  | 0.90         | DDD |
| HD 125630       | MS:A2:M.AP      | 073.D-0464 | 53 120.221 | 600B  | 73 ± 44                   | 0.98         | -44 ± 43                  | 0.94         | nnn |
| HD 127493       | SD:O            | 075.D-0352 | 53 571.047 | 600B  | 138 ± 166                 | 0.87         | -302 ± 198                | 0.95         | nnn |
| WD 1425-811     | WD:DA6          | 073.D-0516 | 53 137.044 | 600B  | 440 ± 1351                | 1.11         | 33 ± 1333                 | 1.08         | n-n |
| HD 127453       | MS:B8:M.AP      | 071.D-0308 | 52 824.121 | 600B  | -261 ± 72                 | 0.90         | -37 ± 70                  | 0.85         | dnd |
| HD 127753       | GS:K5           | 070.D-0352 | 52 678.328 | 600B  | 43 ± 18                   | 0.91         | 10 ± 15                   | 0.68         | -nn |
| CPD-56 6330     | MS:A2           | 070.D-0352 | 52 678.328 | 600B  | 85 ± 252                  | 0.72         | 317 ± 255                 | 0.74         | nnn |
| CPD-56 6330     | MS:A2           | 070.D-0352 | 52 678.349 | 600B  | -200 ± 91                 | 0.77         | 136 ± 87                  | 0.72         | ndn |
| HD 127972       | MS:B1:E         | 075.D-0507 | 53 475.222 | 1200g | -63 ± 45                  | 0.58         | -27 ± 47                  | 0.48         | nnn |
| HD 127973       | MS:B1:E         | 077.D-0406 | 53 862.327 | 600B  | 2 ± 18                    | 0.84         | -12 ± 16                  | 0.71         | nnn |
| HD 127835       | MS:B8           | 070.D-0352 | 52 678.378 | 600B  | 101 ± 70                  | 0.75         | -63 ± 64                  | 0.63         | nnn |
| CPD-56 6334     | MS:B9           | 070.D-0352 | 52 678.328 | 600B  | -266 ± 248                | 0.67         | 525 ± 264                 | 0.75         | nnn |
| CPD-56 6334     | MS:B9           | 070.D-0352 | 52 678.349 | 600B  | 99 ± 93                   | 0.73         | 50 ± 93                   | 0.74         | nnn |
| HD 127575       | MS:B9:M.AP      | 073.D-0464 | 53 079.388 | 600B  | 869 ± 56                  | 1.05         | -74 ± 53                  | 0.93         | DDD |
| NGC 5662 118    | MS:K5           | 070.D-0352 | 52 678.349 | 600B  | -25 ± 35                  | 0.72         | -47 ± 33                  | 0.65         | -nn |
| NGC 5662 126    | MS:A1           | 070.D-0352 | 52 678.328 | 600B  | 474 ± 322                 | 0.72         | -207 ± 317                | 0.70         | nnn |
| NGC 5662 126    | MS:A1           | 070.D-0352 | 52 678.349 | 600B  | 223 ± 99                  | 0.75         | 27 ± 99                   | 0.76         | nnn |
| HD 127866       | GS:B8           | 070.D-0352 | 52 678.328 | 600B  | -226 ± 97                 | 0.65         | -37 ± 101                 | 0.69         | nnn |
| HD 127866       | GS:B8           | 070.D-0352 | 52 678.349 | 600B  | 75 ± 204                  | 0.90         | -71 ± 187                 | 0.75         | nnn |
| CSI-56-14322    | MS:A8           | 070.D-0352 | 52 678.378 | 600B  | 521 ± 207                 | 0.70         | 162 ± 195                 | 0.63         | dnn |
| NGC 5662 CLB149 | ?:K             | 070.D-0352 | 52 678.378 | 600B  | 141 ± 65                  | 0.77         | 21 ± 62                   | 0.70         | -nn |
| NGC 5662 CLB137 | MS:A8           | 070.D-0352 | 52 678.378 | 600B  | -510 ± 323                | 0.76         | -24 ± 322                 | 0.76         | nnn |
| HD 127900       | GS:B8           | 070.D-0352 | 52 678.378 | 600B  | 16 ± 43                   | 0.65         | -132 ± 44                 | 0.68         | nnn |
| HD 127924       | MS:B8           | 070.D-0352 | 52 678.378 | 600B  | 46 ± 68                   | 0.68         | -62 ± 67                  | 0.65         | nnn |
| HD 128585       | MS:B3:SPB       | 079.D-0241 | 54 344.981 | 600B  | 48 ± 59                   | 0.76         | 20 ± 61                   | 0.80         | nnn |
| HD 128775       | MS:B9:M.AP      | 073.D-0464 | 53 120.236 | 600B  | -311 ± 54                 | 1.43         | -26 ± 45                  | 1.02         | ddD |
| HD 128974       | MS:A0:AP        | 071.D-0308 | 52 824.144 | 600B  | -46 ± 52                  | 0.86         | 16 ± 54                   | 0.95         | nnn |
| HD 128898       | MS:A7:M.AP.ROAP | 069.D-0210 | 52 383.300 | 600B  | -311 ± 27                 | 3.92         | 1 ± 15                    | 1.21         | DDD |
| HD 128898       | MS:A7:M.AP.ROAP | 069.D-0210 | 52 383.325 | 600R  | -436 ± 107                | 1.20         | -67 ± 103                 | 1.10         | ndd |
| HD 129557       | GS:B3:BCEP      | 078.D-0140 | 54 158.228 | 600B  | 25 ± 37                   | 0.96         | 13 ± 38                   | 0.88         | nnn |
| HD 129929       | MS:B2:BCEP      | 075.D-0295 | 53 572.053 | 1200g | -46 ± 38                  | 0.99         | -38 ± 37                  | 0.93         | nnn |
| HD 129929       | MS:B2:BCEP      | 078.D-0140 | 54 177.217 | 600B  | 52 ± 63                   | 0.98         | -23 ± 64                  | 0.84         | nnn |
| HD 129929       | MS:B2:BCEP      | 079.D-0241 | 54 343.980 | 600B  | -29 ± 33                  | 0.76         | 6 ± 38                    | 0.72         | nnn |
| HD 130158       | MS:B9:AP        | 071.D-0308 | 52 824.176 | 600B  | 4 ± 65                    | 0.96         | -107 ± 66                 | 0.82         | nnn |
| HD 130158       | MS:B9:AP        | 073.D-0464 | 53 116.312 | 600B  | 1 ± 46                    | 1.02         | 66 ± 55                   | 1.00         | nnn |
| NLTT 38356      | WD:DA7:HPM      | 080.D-0521 | 54 556.356 | 600B  | 1107 ± 2255               | 1.00         | 1640 ± 2301               | 1.03         | n-n |
| HD 130557       | MS:B9:AP        | 071.D-0308 | 52 853.058 | 600B  | -39 ± 62                  | 0.84         | 20 ± 61                   | 0.84         | nnn |
| HD 130557       | MS:B9:AP        | 073.D-0464 | 53 144.267 | 600B  | -26 ± 42                  | 0.98         | -98 ± 44                  | 1.06         | nnn |
| HD 129899       | MS:A0:M.AP      | 073.D-0464 | 53 120.295 | 600B  | 579 ± 39                  | 1.15         | 41 ± 35                   | 0.92         | DDD |
| HD 131120       | MS:B7:HEW       | 071.D-0308 | 52 824.160 | 600B  | -57 ± 118                 | 0.99         | -35 ± 119                 | 1.00         | nnn |
| HD 131120       | MS:B7:HEW       | 072.D-0377 | 53 020.357 | 600B  | 46 ± 50                   | 0.78         | -82 ± 51                  | 0.82         | nnn |
| HD 131120       | MS:B7:HEW       | 072.D-0377 | 53 030.366 | 600B  | 148 ± 109                 | 0.85         | -84 ± 134                 | 0.86         | nnn |
| HD 131120       | MS:B7:HEW       | 073.D-0466 | 53 225.027 | 600B  | 83 ± 50                   | 0.97         | -61 ± 47                  | 0.88         | nnn |
| HD 131120       | MS:B7:HEW       | 073.D-0466 | 53 234.102 | 600B  | -54 ± 86                  | 1.50         | -7 ± 90                   | 1.61         | nnn |
| HD 131058       | MS:B3:SPB       | 075.D-0295 | 53 454.220 | 1200g | -99 ± 57                  | 1.09         | -94 ± 54                  | 0.97         | nnn |
| HD 132200       | MS:B2:BCEP      | 079.D-0241 | 54 343.994 | 600B  | -62 ± 62                  | 0.77         | -200 ± 80                 | 0.78         | nnn |
| HD 132322       | MS:A7:M.AP      | 073.D-0464 | 53 111.311 | 600B  | 393 ± 33                  | 1.79         | 8 ± 25                    | 1.05         | dDD |
| HD 132947       | PM:A0           | 072.C-0447 | 53 064.419 | 600B  | 329 ± 116                 | 1.23         | -316 ± 117                | 1.25         | nnn |
| HD 134305       | MS:A6:M.AP      | 073.D-0464 | 53 144.301 | 600B  | 319 ± 36                  | 1.13         | -30 ± 33                  | 0.95         | nDD |
| HD 133792       | MS:A0:AP        | 071.D-0308 | 52 853.070 | 600B  | 89 ± 55                   | 0.86         | -82 ± 54                  | 0.81         | nnn |
| HD 133792       | MS:A0:AP        | 073.D-0464 | 53 120.312 | 600B  | 66 ± 36                   | 1.17         | -16 ± 31                  | 0.87         | nnn |
| HD 135344B      | PM:F8:CSD       | 081.C-0410 | 54 609.243 | 600B  | -14 ± 17                  | 0.79         | 16 ± 17                   | 0.75         | nnn |
| HD 135344B      | PM:F8:CSD       | 081.C-0410 | 54 610.144 | 600B  | 1 ± 17                    | 0.83         | -29 ± 16                  | 0.75         | nnn |
| HD 135240       | GS:O7           | 075.D-0432 | 53 475.243 | 600B  | 11 ± 70                   | 0.97         | -42 ± 66                  | 0.85         | nnn |
| HD 135240       | GS:O7           | 075.D-0432 | 53 487.263 | 600B  | -15 ± 61                  | 0.99         | 17 ± 59                   | 0.93         | nnn |
| HD 135240       | GS:O7           | 075.D-0432 | 53 553.103 | 600B  | -74 ± 65                  | 0.93         | 140 ± 64                  | 0.90         | nnn |
| HD 135591       | GS:O7           | 075.D-0432 | 53 487.242 | 600B  | -44 ± 53                  | 1.07         | 14 ± 50                   | 0.97         | nnn |
| HD 135591       | GS:O7           | 075.D-0432 | 53 553.081 | 600B  | 4 ± 55                    | 1.08         | 49 ± 57                   | 1.05         | nnn |



Table 5. continued.

| Star               | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 135591          | GS:O7           | 075.D-0432 | 53 571.066 | 600B  | $37 \pm 107$              | 0.77         | $109 \pm 112$             | 0.84         | nnn |
| HD 135591          | GS:O7           | 075.D-0432 | 53 571.081 | 600B  | $38 \pm 65$               | 0.97         | $-6 \pm 67$               | 0.99         | nnn |
| NLTT 40020         | MS:G5:HPM       | 080.D-0521 | 54 555.342 | 600B  | $919 \pm 896$             | 0.74         |                           |              | nnn |
| HD 136504          | MS:B2:M.BCEP.SB | 079.D-0241 | 54 344.999 | 600B  | $-137 \pm 38$             | 0.80         | $79 \pm 45$               | 0.73         | nnd |
| HD 136933          | MS:A0:AP        | 071.D-0308 | 52 823.220 | 600B  | $-186 \pm 61$             | 0.96         | $-23 \pm 64$              | 0.95         | nnd |
| HD 137432          | MS:B4:E         | 075.D-0507 | 53 532.162 | 1200g | $-101 \pm 47$             | 1.86         | $-39 \pm 47$              | 1.83         | nnn |
| HD 137949          | MS:F3:M.APROAP  | 069.D-0210 | 52 383.370 | 600B  | $2682 \pm 69$             | 38.86        | $19 \pm 11$               | 1.00         | DDD |
| HD 137949          | MS:F3:M.APROAP  | 069.D-0210 | 52 383.408 | 600R  | $2871 \pm 64$             | 7.07         | $18 \pm 24$               | 1.01         | DDD |
| HD 137949          | MS:F3:M.APROAP  | 079.D-0240 | 54 209.285 | 600B  | $2502 \pm 40$             | 3.81         | $63 \pm 18$               | 0.78         | DDD |
| HD 137949          | MS:F3:M.APROAP  | 079.D-0240 | 54 230.282 | 600B  | $2342 \pm 78$             | 4.16         | $91 \pm 35$               | 0.85         | DDD |
| HD 137949          | MS:F3:M.APROAP  | 079.D-0240 | 54 272.049 | 600B  | $2457 \pm 41$             | 3.59         | $-14 \pm 19$              | 0.76         | DDD |
| HD 137949          | MS:F3:M.APROAP  | 079.D-0240 | 54 280.997 | 600B  | $2512 \pm 44$             | 2.79         | $-25 \pm 23$              | 0.77         | DDD |
| HD 137949          | MS:F3:M.APROAP  | 079.D-0240 | 54 308.016 | 600B  | $2417 \pm 41$             | 3.53         | $12 \pm 19$               | 0.74         | DDD |
| HD 138764          | MS:B6:SPB       | 072.D-0377 | 52 904.016 | 600B  | $169 \pm 81$              | 0.84         | $-28 \pm 83$              | 0.88         | nnn |
| HD 138764          | MS:B6:SPB       | 075.D-0295 | 53 454.234 | 1200g | $11 \pm 168$              | 1.16         | $66 \pm 169$              | 1.19         | nnn |
| HD 138769          | MS:B3:SPB.P     | 072.D-0377 | 52 904.015 | 600B  | $27 \pm 62$               | 0.31         | $-190 \pm 63$             | 0.32         | nnn |
| HD 138769          | MS:B3:SPB.P     | 073.D-0466 | 53 144.019 | 600B  | $-432 \pm 53$             | 0.98         | $243 \pm 60$              | 0.94         | DdD |
| HD 138769          | MS:B3:SPB.P     | 073.D-0466 | 53 202.028 | 600B  | $-157 \pm 211$            | 0.83         |                           |              | nnn |
| HD 138769          | MS:B3:SPB.P     | 073.D-0466 | 53 202.046 | 600B  | $-605 \pm 218$            | 1.19         | $250 \pm 216$             | 1.14         | dnn |
| HD 138769          | MS:B3:SPB.P     | 073.D-0466 | 53 225.002 | 600B  | $-425 \pm 130$            | 0.82         | $-94 \pm 130$             | 0.81         | nnd |
| HD 138769          | MS:B3:SPB.P     | 073.D-0466 | 53 227.130 | 600B  | $-364 \pm 317$            | 0.95         |                           |              | nnn |
| HD 138769          | MS:B3:SPB.P     | 073.D-0466 | 53 234.117 | 600B  | $-42 \pm 45$              | 0.92         | $112 \pm 46$              | 0.97         | nnn |
| HD 138769          | MS:B3:SPB.P     | 072.D-0377 | 52 908.022 | 600B  | $-243 \pm 75$             | 0.72         | $-133 \pm 77$             | 0.75         | nnd |
| NLTT 40636         | MS:G:HPM        | 080.D-0521 | 54 555.382 | 600B  | $-2802 \pm 1184$          | 0.77         |                           |              | dnn |
| NLTT 40636         | MS:G:HPM        | 080.D-0521 | 54 557.340 | 600B  | $-1246 \pm 1165$          | 0.75         |                           |              | nnn |
| HD 138758          | MS:B9:M.AP      | 073.D-0464 | 53 086.328 | 600B  | $468 \pm 33$              | 1.14         | $-66 \pm 30$              | 0.92         | DDD |
| HD 139614          | PM:A7:E         | 072.D-0377 | 52 904.040 | 600B  | $-78 \pm 64$              | 0.91         | $-25 \pm 62$              | 0.88         | nnn |
| HD 139614          | PM:A7:E         | 081.C-0410 | 54 610.201 | 600B  | $-19 \pm 20$              | 0.82         | $3 \pm 20$                | 0.78         | nnn |
| HD 139614          | PM:A7:E         | 074.C-0463 | 53 405.373 | 1200g | $29 \pm 22$               | 1.28         | $-14 \pm 20$              | 1.08         | nnn |
| LSE 125            | CP              | 075.D-0289 | 53 525.236 | 600B  | $-168 \pm 119$            | 1.17         | $-139 \pm 125$            | 1.08         | nnn |
| LSE 125            | CP              | 075.D-0289 | 53 526.208 | 600B  | $277 \pm 143$             | 0.94         | $-399 \pm 176$            | 0.97         | nnn |
| LSE 125            | CP              | 075.D-0289 | 53 527.266 | 600B  | $453 \pm 236$             | 1.09         |                           |              | nnn |
| HD 140873          | GS:B8:SPB.SB    | 073.D-0466 | 53 151.192 | 600B  | $27 \pm 52$               | 0.98         | $48 \pm 50$               | 0.90         | nnn |
| HD 140873          | GS:B8:SPB.SB    | 075.D-0295 | 53 454.247 | 1200g | $-158 \pm 91$             | 0.98         | $-41 \pm 96$              | 1.08         | nnn |
| HD 140873          | GS:B8:SPB.SB    | 075.D-0295 | 53 572.083 | 1200g | $-248 \pm 146$            | 1.11         | $486 \pm 147$             | 1.14         | nnn |
| HD 140873          | GS:B8:SPB.SB    | 078.D-0140 | 54 179.298 | 600B  | $11 \pm 55$               | 0.87         | $212 \pm 52$              | 0.80         | nnn |
| HD 140873          | GS:B8:SPB.SB    | 079.D-0241 | 54 344.012 | 600B  | $-36 \pm 36$              | 0.79         | $-35 \pm 35$              | 0.77         | nnn |
| HD 141569          | PM:B9:E         | 072.C-0447 | 53 062.343 | 600B  | $-65 \pm 46$              | 1.18         | $-233 \pm 39$             | 0.81         | nnn |
| HD 142378          | MS:B2           | 079.D-0241 | 54 344.024 | 600B  | $92 \pm 48$               | 0.71         | $-111 \pm 63$             | 0.80         | nnn |
| HD 142666          | PM:A8:E         | 072.C-0447 | 53 063.355 | 600B  | $32 \pm 46$               | 1.09         | $-40 \pm 43$              | 0.95         | nnn |
| HD 143309          | GS:B8:SPB       | 073.D-0466 | 53 151.220 | 600B  | $-94 \pm 84$              | 1.13         | $209 \pm 96$              | 0.98         | nnn |
| HD 143309          | GS:B8:SPB       | 073.D-0466 | 53 225.056 | 600B  | $172 \pm 90$              | 0.91         | $88 \pm 83$               | 0.85         | nnn |
| HD 143309          | GS:B8:SPB       | 073.D-0466 | 53 234.016 | 600B  | $15 \pm 56$               | 0.99         | $38 \pm 66$               | 0.92         | nnn |
| HD 143309          | SG:B8:SPB       | 075.D-0295 | 53 454.280 | 1200g | $35 \pm 42$               | 1.02         | $-27 \pm 39$              | 0.93         | nnn |
| HD 144432          | PM:A9:E         | 072.D-0377 | 52 900.991 | 600B  | $70 \pm 56$               | 0.96         | $-31 \pm 56$              | 0.95         | nnn |
| HD 144432          | PM:A9:E         | 081.C-0410 | 54 609.384 | 600B  | $5 \pm 33$                | 0.84         | $15 \pm 37$               | 0.83         | nnn |
| HD 144432          | PM:A9:E         | 072.C-0447 | 53 062.401 | 600B  | $-42 \pm 29$              | 1.73         | $30 \pm 26$               | 1.48         | nnn |
| HD 144432          | PM:A9:E         | 074.C-0463 | 53 447.352 | 1200g | $-122 \pm 21$             | 1.26         | $-3 \pm 19$               | 1.01         | dDD |
| HD 144667          | PM:A1           | 079.D-0241 | 54 344.101 | 600B  | $-91 \pm 44$              | 0.85         | $101 \pm 41$              | 0.75         | nnn |
| HD 144668          | PM:A7:E.DSCT    | 072.C-0447 | 53 063.402 | 600B  | $15 \pm 24$               | 1.08         | $41 \pm 22$               | 0.90         | nnn |
| HD 144668          | PM:A7:E.DSCT    | 072.D-0377 | 52 901.007 | 600B  | $-77 \pm 85$              | 0.94         | $-239 \pm 85$             | 0.94         | nnn |
| HD 144668          | PM:A7:E.DSCT    | 073.D-0464 | 53 120.254 | 600B  | $43 \pm 42$               | 0.99         | $43 \pm 40$               | 0.98         | nnn |
| HD 144668          | PM:A7:E.DSCT    | 075.D-0295 | 53 461.405 | 1200g | $51 \pm 103$              | 1.01         | $113 \pm 101$             | 0.97         | nnn |
| HD 144668          | PM:A7:E.DSCT    | 081.C-0410 | 54 610.238 | 600B  | $-89 \pm 29$              | 0.83         | $29 \pm 27$               | 0.77         | nnd |
| HD 144668          | PM:A7:E.DSCT    | 074.C-0463 | 53 447.379 | 1200g | $434 \pm 234$             | 1.23         | $162 \pm 244$             | 1.34         | nnn |
| HD 145102          | MS:B9:AP        | 071.D-0308 | 52 763.315 | 600B  | $-70 \pm 77$              | 0.88         | $-70 \pm 73$              | 0.82         | nnn |
| NGC 6025 129       | MS:A0           | 073.D-0498 | 53 199.086 | 600B  | $-43 \pm 50$              | 0.50         | $-36 \pm 50$              | 0.50         | nnn |
| CPD-57 7817        | MS:B8:M.AP      | 073.D-0498 | 53 199.086 | 600B  | $-620 \pm 50$             | 0.54         | $20 \pm 48$               | 0.49         | DdD |
| TYC8719-717-1      | MS:B7           | 073.D-0498 | 53 199.086 | 600B  | $30 \pm 61$               | 0.52         | $12 \pm 60$               | 0.51         | nnn |
| HD 146484          | MS:B7           | 070.D-0352 | 52 679.371 | 600B  | $-150 \pm 82$             | 0.78         | $78 \pm 78$               | 0.71         | nnn |
| HD 146555          | MS:A0:M.AP      | 070.D-0352 | 52 679.371 | 600B  | $475 \pm 93$              | 0.78         | $284 \pm 85$              | 0.66         | dnD |
| NGC 6087 91        | MS:A8           | 070.D-0352 | 52 679.371 | 600B  | $-75 \pm 200$             | 0.77         | $-317 \pm 202$            | 0.79         | nnn |
| 16:20:05 -57:53:28 | ?:M             | 070.D-0352 | 52 679.371 | 600B  | $-56 \pm 82$              | 0.76         | $-149 \pm 83$             | 0.80         | -nn |
| CPD-57 7883        | ?:M             | 070.D-0352 | 52 679.371 | 600B  | $66 \pm 26$               | 0.90         | $-3 \pm 25$               | 0.83         | -nn |

Table 5. continued.

| Star        | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 147084   | GS:A4:V         | 077.D-0556 | 53 975.968 | 1200B | $54 \pm 22$               | 1.32         | $8 \pm 19$                | 1.01         | nnn |
| WD 1620-391 | WD:DA2          | 069.D-0210 | 52 383.426 | 600B  | $297 \pm 766$             | 0.99         |                           |              | n-n |
| WD 1620-391 | WD:DA2          | 069.D-0210 | 52 383.431 | 600R  | $703 \pm 1112$            | 1.11         |                           |              | n-n |
| WD 1620-391 | WD:DA2          | 073.D-0356 | 53 136.301 | 600B  | $177 \pm 338$             | 0.85         | $-677 \pm 353$            | 0.78         | n-n |
| WD 1620-391 | WD:DA2          | 073.D-0356 | 53 143.322 | 600B  | $-56 \pm 498$             | 1.07         | $99 \pm 506$              | 1.02         | n-n |
| WD 1620-391 | WD:DA2          | 073.D-0356 | 53 147.255 | 600B  | $-5 \pm 296$              | 0.88         | $-91 \pm 328$             | 0.90         | n-n |
| WD 1620-391 | WD:DA2          | 073.D-0356 | 53 151.070 | 600B  | $9 \pm 416$               | 0.95         | $1025 \pm 450$            | 0.96         | n-n |
| WD 1620-391 | WD:DA2          | 080.D-0521 | 54 529.391 | 600B  | $-3134 \pm 2204$          | 0.78         |                           |              | n-n |
| LS IV -12 1 | SD:O            | 075.D-0352 | 53 566.068 | 600B  | $206 \pm 231$             | 1.07         | $-412 \pm 272$            | 0.99         | nnn |
| HD 147869   | MS:A1:AP        | 071.D-0308 | 52 763.327 | 600B  | $-77 \pm 64$              | 0.83         | $86 \pm 66$               | 0.88         | nnn |
| HD 147869   | MS:A1:AP        | 073.D-0464 | 53 144.318 | 600B  | $-33 \pm 36$              | 0.95         | $42 \pm 37$               | 0.99         | nnn |
| HD 148112   | MS:A0:AP        | 071.D-0308 | 52 763.338 | 600B  | $-111 \pm 54$             | 0.92         | $131 \pm 56$              | 0.99         | nnn |
| HD 148184   | MS:B1:PE        | 075.D-0507 | 53 532.224 | 1200g | $23 \pm 56$               | 0.69         | $137 \pm 65$              | 0.93         | -nn |
| HD 148184   | MS:B1:PE        | 077.D-0406 | 53 862.380 | 600B  | $54 \pm 52$               | 1.07         | $-104 \pm 44$             | 0.74         | -nn |
| HD 148259   | MS:B2:E         | 075.D-0507 | 53 532.195 | 1200g | $248 \pm 134$             | 1.55         | $-38 \pm 130$             | 1.48         | nnn |
| HD 148259   | MS:B2:E         | 075.D-0507 | 53 572.104 | 1200g | $14 \pm 56$               | 1.10         | $75 \pm 52$               | 0.92         | nnn |
| HD 148898   | MS:A6:AP        | 071.D-0308 | 52 763.349 | 600B  | $204 \pm 62$              | 0.93         | $-97 \pm 60$              | 0.87         | ndd |
| HD 148937   | MS:O6:M.FP      | 080.D-0383 | 54 550.416 | 600B  | $-142 \pm 79$             | 0.78         | $20 \pm 96$               | 0.79         | nnn |
| HD 149382   | SD:OB           | 075.D-0352 | 53 458.390 | 600B  | $74 \pm 688$              | 1.16         | $768 \pm 733$             | 1.33         | nnn |
| HD 149257   | SG:B1           | 073.D-0498 | 53 199.116 | 600B  | $159 \pm 60$              | 0.52         | $-120 \pm 60$             | 0.52         | dnn |
| HD 149277   | MS:B2:M.HES     | 073.D-0498 | 53 199.116 | 600B  | $2298 \pm 97$             | 0.53         | $94 \pm 90$               | 0.48         | DDD |
| HD 149822   | MS:B9:M.AP      | 071.D-0308 | 52 763.361 | 600B  | $-712 \pm 49$             | 1.08         | $17 \pm 43$               | 0.87         | DDD |
| HD 149757   | MS:O9:E         | 081.C-0410 | 54 609.345 | 600B  | $118 \pm 61$              | 0.79         | $10 \pm 65$               | 0.93         | nnn |
| HD 149764   | MS:A0:M.AP      | 071.D-0308 | 52 763.374 | 600B  | $-1188 \pm 67$            | 0.88         | $20 \pm 68$               | 0.90         | DdD |
| HD 149764   | MS:A0:M.AP      | 073.D-0464 | 53 120.331 | 600B  | $73 \pm 50$               | 1.51         | $-48 \pm 44$              | 0.93         | nnn |
| HD 150193   | PM:A0:E         | 081.C-0410 | 54 609.093 | 600B  | $-245 \pm 39$             | 0.83         | $-1 \pm 39$               | 0.83         | DdD |
| CD-48 11050 | MS:A2           | 073.D-0498 | 53 199.145 | 600B  | $-81 \pm 85$              | 0.53         | $-82 \pm 84$              | 0.51         | nnn |
| CD-48 11050 | MS:A2           | 073.D-0498 | 53 210.119 | 600B  | $-45 \pm 52$              | 0.48         | $82 \pm 50$               | 0.43         | nnn |
| CD-48 11051 | MS:B1:M.HES     | 073.D-0498 | 53 199.145 | 600B  | $-2196 \pm 97$            | 0.56         | $82 \pm 93$               | 0.51         | DDD |
| CD-48 11051 | MS:B1:M.HES     | 073.D-0498 | 53 210.119 | 600B  | $-2011 \pm 65$            | 0.58         | $-90 \pm 60$              | 0.48         | DDD |
| CD-48 11059 | MS:B3           | 073.D-0498 | 53 199.145 | 600B  | $314 \pm 145$             | 0.52         | $-142 \pm 144$            | 0.52         | nnn |
| CD-48 11059 | MS:B3           | 073.D-0498 | 53 210.119 | 600B  | $136 \pm 94$              | 0.53         | $-49 \pm 91$              | 0.50         | nnn |
| CD-48 11060 | MS:B3           | 073.D-0498 | 53 199.145 | 600B  | $-6 \pm 116$              | 0.48         | $-17 \pm 119$             | 0.51         | nnn |
| CD-48 11060 | MS:B3           | 073.D-0498 | 53 210.119 | 600B  | $-83 \pm 76$              | 0.48         | $-64 \pm 79$              | 0.53         | nnn |
| HD 150562   | MS:A5:M.AP      | 079.D-0240 | 54 208.382 | 600B  | $1853 \pm 46$             | 1.50         | $-4 \pm 33$               | 0.76         | DDD |
| HD 150562   | MS:A5:M.AP      | 079.D-0240 | 54 238.251 | 600B  | $1904 \pm 47$             | 1.57         | $16 \pm 33$               | 0.78         | DDD |
| HD 150562   | MS:A5:M.AP      | 079.D-0240 | 54 247.083 | 600B  | $1878 \pm 44$             | 1.63         | $-38 \pm 30$              | 0.76         | DDD |
| HD 150549   | MS:A0:AP        | 071.D-0308 | 52 763.386 | 600B  | $-78 \pm 61$              | 1.05         | $55 \pm 56$               | 0.91         | nnn |
| HD 150549   | MS:A0:AP        | 073.D-0464 | 53 116.386 | 600B  | $-65 \pm 41$              | 0.87         | $-6 \pm 39$               | 0.82         | nnn |
| HD 150549   | MS:A0:AP        | 073.D-0464 | 53 120.350 | 600B  | $-80 \pm 32$              | 0.95         | $26 \pm 32$               | 0.90         | nnn |
| HD 151525   | MS:B9:M.AP      | 071.D-0308 | 52 733.395 | 600B  | $17 \pm 78$               | 0.88         | $-41 \pm 92$              | 0.83         | nnn |
| HD 151525   | MS:B9:M.AP      | 071.D-0308 | 52 763.397 | 600B  | $205 \pm 71$              | 0.94         | $-118 \pm 68$             | 0.86         | nnn |
| HD 151804   | SG:O8           | 075.D-0432 | 53 476.371 | 600B  | $31 \pm 197$              | 0.98         | $-115 \pm 218$            | 1.02         | nnn |
| HD 151804   | SG:O8           | 075.D-0432 | 53 571.025 | 600B  | $-142 \pm 100$            | 1.00         | $-124 \pm 94$             | 0.89         | nnn |
| HD 151804   | SG:O8           | 075.D-0432 | 53 596.061 | 600B  | $288 \pm 69$              | 0.91         | $-231 \pm 68$             | 0.89         | ndd |
| HD 152404   | PM:F5:E         | 081.C-0410 | 54 609.311 | 600B  | $-42 \pm 19$              | 0.80         | $-24 \pm 19$              | 0.76         | nnn |
| HD 152408   | SG:O8:PE        | 075.D-0432 | 53 556.214 | 600B  | $-52 \pm 129$             | 1.22         | $121 \pm 110$             | 0.88         | nnn |
| HD 152408   | SG:O8:PE        | 075.D-0432 | 53 571.103 | 600B  | $195 \pm 280$             | 1.08         | $-219 \pm 244$            | 0.82         | nnn |
| HD 152408   | SG:O8:PE        | 075.D-0432 | 53 596.081 | 600B  | $9 \pm 116$               | 1.06         | $77 \pm 102$              | 0.85         | nnn |
| HD 152635   | GS:B7:SPB       | 079.D-0241 | 54 344.041 | 600B  | $-99 \pm 30$              | 0.84         | $37 \pm 30$               | 0.86         | dnd |
| HD 152511   | MS:B5:M.SPB     | 079.D-0241 | 54 344.116 | 600B  | $600 \pm 51$              | 0.74         | $113 \pm 62$              | 0.75         | DnD |
| HD 152511   | MS:B5:M.SPB     | 081.C-0410 | 54 610.223 | 600B  | $113 \pm 35$              | 0.91         | $-43 \pm 33$              | 0.80         | dnd |
| HD 152511   | MS:B5:M.SPB     | 060.A-9203 | 54 608.158 | 600B  | $69 \pm 33$               | 0.85         | $-68 \pm 36$              | 0.87         | nnn |
| HD 152511   | MS:B5:M.SPB     | 081.C-0410 | 54 609.433 | 600B  | $429 \pm 49$              | 0.66         | $144 \pm 48$              | 0.62         | DnD |
| HD 153261   | MS:B2:E         | 075.D-0507 | 53 532.252 | 1200g | $72 \pm 96$               | 0.78         | $-173 \pm 87$             | 0.66         | nnn |
| HD 322676   | MS:A0           | 073.D-0498 | 53 219.234 | 600B  | $-176 \pm 97$             | 0.49         | $117 \pm 96$              | 0.48         | nnn |
| HD 323673   | MS:A0           | 073.D-0498 | 53 219.234 | 600B  | $-182 \pm 81$             | 0.54         | $-68 \pm 83$              | 0.57         | nnn |
| HD 153948   | MS:A2:M.AP      | 073.D-0498 | 53 219.234 | 600B  | $209 \pm 54$              | 0.58         | $39 \pm 55$               | 0.59         | nnn |
| HD 153716   | MS:B5           | 079.D-0241 | 54 344.057 | 600B  | $-70 \pm 48$              | 0.78         | $-79 \pm 58$              | 0.78         | nnn |
| PN H 2-1    | CP              | 075.D-0289 | 53 525.325 | 600B  |                           |              |                           |              | -   |
| PN H 2-1    | CP              | 075.D-0289 | 53 527.202 | 600B  |                           |              |                           |              | -   |
| HD 154072   | CP              | 075.D-0289 | 53 526.295 | 600B  | $7 \pm 169$               | 1.21         | $-233 \pm 190$            | 1.14         | nnn |
| HD 154072   | CP              | 075.D-0289 | 53 527.323 | 600B  | $13 \pm 193$              | 1.00         | $503 \pm 201$             | 0.98         | nnn |
| HD 154708   | MS:A2:M.AP.ROAP | 073.D-0464 | 53 120.376 | 600B  | $9227 \pm 141$            | 37.11        | $-43 \pm 24$              | 1.10         | DDD |

Table 5. continued.

| Star               | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 154708          | MS:A2:M.AP.ROAP | 075.D-0295 | 53 487.308 | 1200g | 7178 ± 109                | 50.59        | -34 ± 15                  | 0.95         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 075.D-0295 | 53 570.998 | 1200g | 9001 ± 193                | 2.63         | -158 ± 142                | 1.43         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 197.369 | 600B  | 9516 ± 168                | 10.01        | -11 ± 46                  | 0.79         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 209.307 | 600B  | 8853 ± 82                 | 13.87        | -30 ± 19                  | 0.80         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 215.279 | 600B  | 8357 ± 78                 | 10.33        | -40 ± 21                  | 0.79         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 223.173 | 600B  | 7542 ± 79                 | 14.08        | 38 ± 18                   | 0.81         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 238.283 | 600B  | 7084 ± 76                 | 4.79         | 9 ± 29                    | 0.77         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 247.172 | 600B  | 8556 ± 81                 | 6.31         | 17 ± 27                   | 0.74         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 254.121 | 600B  | 7097 ± 77                 | 3.63         | 39 ± 35                   | 0.78         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 258.249 | 600B  | 8314 ± 79                 | 6.69         | 1 ± 25                    | 0.75         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 270.309 | 600B  | 7152 ± 72                 | 9.38         | 21 ± 19                   | 0.75         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 279.166 | 600B  | 8761 ± 81                 | 14.53        | 9 ± 18                    | 0.79         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 287.225 | 600B  | 6996 ± 115                | 1.52         | 80 ± 84                   | 0.82         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 305.153 | 600B  | 8730 ± 83                 | 11.07        | 16 ± 22                   | 0.80         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 307.021 | 600B  | 7777 ± 73                 | 13.41        | 46 ± 17                   | 0.77         | DDD |
| HD 154708          | MS:A2:M.AP.ROAP | 079.D-0240 | 54 297.302 | 600B  | 7112 ± 78                 | 3.53         | 32 ± 34                   | 0.74         | DDD |
| HD 155379          | MS:A0           | 071.D-0308 | 52 763.410 | 600B  | 106 ± 67                  | 0.85         | 67 ± 83                   | 0.88         | nnn |
| HD 155379          | MS:A0           | 073.D-0464 | 53 137.393 | 600B  | 29 ± 38                   | 0.97         | -33 ± 39                  | 1.01         | ndn |
| HD 155806          | MS:O7:E         | 075.D-0432 | 53 476.398 | 600B  | 2 ± 112                   | 0.90         | -71 ± 108                 | 0.82         | nnn |
| HD 155806          | MS:O7:E         | 075.D-0432 | 53 532.306 | 600B  | 47 ± 59                   | 1.09         | 9 ± 57                    | 1.02         | nnn |
| HD 155806          | MS:O7:E         | 075.D-0432 | 53 556.235 | 600B  | -70 ± 89                  | 0.85         | -100 ± 116                | 0.95         | nnn |
| HD 155806          | MS:O7:E         | 075.D-0507 | 53 532.283 | 1200g | 38 ± 66                   | 1.07         | 126 ± 64                  | 0.99         | nnn |
| HD 155806          | MS:O7:E         | 080.D-0383 | 54 549.403 | 600B  | -123 ± 80                 | 0.74         | 57 ± 99                   | 0.74         | nnn |
| HD 157056          | MS:B2:BCEP      | 075.D-0295 | 53 532.324 | 1200g | -18 ± 25                  | 1.10         | -27 ± 24                  | 1.02         | nnn |
| HD 157056          | MS:B2:BCEP      | 075.D-0295 | 53 572.122 | 1200g | -45 ± 48                  | 0.91         | -97 ± 48                  | 0.88         | nnn |
| HD 157751          | MS:B9:M.AP      | 071.D-0308 | 52 793.271 | 600B  | 4108 ± 76                 | 2.80         | -14 ± 43                  | 0.93         | DDD |
| HD 157751          | MS:B9:M.AP      | 073.D-0464 | 53 116.404 | 600B  | 3889 ± 67                 | 3.99         | 14 ± 38                   | 1.27         | DDD |
| HD 158643          | PM:A0           | 081.C-0410 | 54 609.275 | 600B  | -74 ± 29                  | 0.81         | -24 ± 30                  | 0.74         | nnn |
| HD 158427          | MS:B2:E         | 077.D-0406 | 53 869.353 | 600B  | -27 ± 38                  | 1.05         | -12 ± 41                  | 1.23         | nnn |
| NGC 6383 28        | MS:A0           | 073.D-0498 | 53 220.182 | 600B  | 77 ± 126                  | 0.74         | -80 ± 122                 | 0.69         | nnn |
| NGC 6383 700       | MS:A3:P         | 073.D-0498 | 53 220.182 | 600B  | 130 ± 121                 | 0.74         | 251 ± 121                 | 0.72         | nnn |
| NGC 6383 26        | PM:A2:E.P       | 073.D-0498 | 53 220.182 | 600B  | 4 ± 153                   | 0.68         | -110 ± 145                | 0.60         | nnn |
| HD 317857          | MS:A1:M.AP      | 073.D-0498 | 53 210.161 | 600B  | -1688 ± 74                | 1.44         | -22 ± 46                  | 0.56         | DDD |
| NGC 6383 87        | PM:A5:E.P       | 073.D-0498 | 53 220.182 | 600B  | -77 ± 93                  | 0.62         | 57 ± 94                   | 0.63         | nnn |
| HD 317846          | MS:B5           | 073.D-0498 | 53 210.161 | 600B  | -44 ± 53                  | 0.55         | -53 ± 53                  | 0.55         | nnn |
| NGC 6383 102       | MS:B8           | 073.D-0498 | 53 210.161 | 600B  | 277 ± 91                  | 0.66         | 66 ± 77                   | 0.49         | ndd |
| HD 317852          | MS:F2:P         | 073.D-0498 | 53 220.182 | 600B  | 1 ± 60                    | 0.65         | 30 ± 57                   | 0.58         | nnn |
| HD 159217          | MS:A0           | 077.D-0556 | 53 976.193 | 600B  | 115 ± 50                  | 0.90         | -87 ± 51                  | 0.92         | nnn |
| HD 159312          | MS:A0           | 077.D-0556 | 53 976.178 | 600B  | 156 ± 77                  | 0.97         | 98 ± 79                   | 1.04         | nnn |
| WD 1733-544        | WD:DA8          | 073.D-0516 | 53 199.178 | 600B  | 3554 ± 4260               | 1.34         | 4070 ± 3882               | 1.11         | n-n |
| NGC 6396 PPM48     | GS:B5           | 070.D-0352 | 52 679.394 | 600B  | -562 ± 225                | 0.77         | 293 ± 228                 | 0.76         | nnn |
| NGC 6396 PPM93     | GS:B            | 070.D-0352 | 52 679.394 | 600B  | -62 ± 247                 | 0.68         | -322 ± 258                | 0.75         | nnn |
| 17:37:37 -35:04:20 | ?:F             | 070.D-0352 | 52 679.394 | 600B  | 665 ± 374                 | 0.76         | -262 ± 359                | 0.77         | nnn |
| TYC7384-506-1      | ?:F             | 070.D-0352 | 52 679.394 | 600B  | -78 ± 93                  | 0.72         | -325 ± 90                 | 0.68         | nnn |
| CD-34 11864        | ?:M4            | 070.D-0352 | 52 679.394 | 600B  | 53 ± 40                   | 0.77         | -102 ± 39                 | 0.72         | -nn |
| HD 160124          | MS:B3:SPB       | 073.D-0466 | 53 151.259 | 600B  | 30 ± 54                   | 0.90         | 23 ± 54                   | 0.94         | nnn |
| HD 160124          | MS:B3:SPB       | 075.D-0295 | 53 520.234 | 1200g | 20 ± 78                   | 1.12         | 117 ± 76                  | 1.06         | nnn |
| HD 160124          | MS:B3:SPB       | 075.D-0295 | 53 600.109 | 1200g | 78 ± 46                   | 0.87         | 38 ± 56                   | 0.89         | nnn |
| HD 160124          | MS:B3:SPB       | 075.D-0295 | 53 604.109 | 1200g | 55 ± 35                   | 0.96         | -16 ± 37                  | 0.82         | nnn |
| HD 318107          | MS:B8:M.AP      | 073.D-0498 | 53 211.986 | 600B  | 5878 ± 67                 | 2.13         | -39 ± 31                  | 0.47         | DDD |
| HD 318108          | MS:B9           | 073.D-0498 | 53 211.986 | 600B  | -112 ± 61                 | 0.53         | -20 ± 59                  | 0.50         | nnn |
| HD 318109          | MS:A0           | 073.D-0498 | 53 211.986 | 600B  | -29 ± 71                  | 0.58         | 87 ± 64                   | 0.48         | nnn |
| CD-32 13089        | MS:A4           | 073.D-0498 | 53 234.056 | 600B  | 34 ± 63                   | 0.56         | -29 ± 60                  | 0.51         | nnn |
| CD-32 13093        | MS:A0           | 073.D-0498 | 53 234.056 | 600B  | -125 ± 83                 | 0.50         | 25 ± 83                   | 0.51         | nnn |
| V976 Sco           | MS:A4           | 073.D-0498 | 53 234.056 | 600B  | -209 ± 139                | 0.54         | -206 ± 137                | 0.53         | nnn |
| HD 318100          | MS:B9:M.AP      | 073.D-0498 | 53 234.056 | 600B  | 363 ± 51                  | 0.52         | 75 ± 52                   | 0.54         | DnD |
| NGC 6405 322       | ?:F5            | 073.D-0498 | 53 220.098 | 600B  | 93 ± 46                   | 0.52         | -30 ± 46                  | 0.53         | nnn |
| HD 318099          | MS:A0           | 073.D-0498 | 53 234.056 | 600B  | -40 ± 65                  | 0.54         | 43 ± 61                   | 0.47         | nnn |
| CD-32 13119        | MS:A8:AP        | 073.D-0498 | 53 220.098 | 600B  | -62 ± 28                  | 0.58         | -25 ± 28                  | 0.60         | nnn |
| HD 318095          | MS:A1           | 073.D-0498 | 53 220.098 | 600B  | 83 ± 46                   | 0.52         | -59 ± 47                  | 0.52         | nnn |
| HD 160578          | GS:B1:BCEP      | 075.D-0295 | 53 532.346 | 1200g | 13 ± 33                   | 1.19         | -79 ± 31                  | 1.06         | nnn |
| HD 160578          | GS:B1:BCEP      | 075.D-0295 | 53 604.127 | 1200g | 47 ± 41                   | 0.96         | -56 ± 39                  | 0.87         | nnn |
| CD-28 13479        | GS:B2           | 060.A-9203 | 53 948.239 | 600B  | 888 ± 1403                | 1.07         |                           |              | nnn |
| HD 160917          | MS:B9           | 075.D-0289 | 53 527.450 | 600B  | 101 ± 68                  | 0.95         | -21 ± 74                  | 0.99         | nnn |

Table 5. continued.

| Star               | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 161044          | CP              | 075.D-0289 | 53 525.396 | 600B  | $-167 \pm 111$            | 1.15         | $-68 \pm 113$             | 1.17         | -nn |
| HD 161044          | CP              | 075.D-0289 | 53 526.442 | 600B  | $-15 \pm 396$             | 1.33         | $38 \pm 409$              | 1.39         | -nn |
| HD 161044          | CP              | 075.D-0289 | 53 527.425 | 600B  | $123 \pm 384$             | 1.30         | $-15 \pm 355$             | 1.16         | -nn |
| HD 160468          | MS:F2:AP        | 073.D-0464 | 53 116.362 | 600B  | $-55 \pm 61$              | 2.48         | $47 \pm 62$               | 2.62         | nnn |
| HD 160468          | MS:F2:AP        | 073.D-0464 | 53 134.319 | 600B  | $-48 \pm 40$              | 1.48         | $-40 \pm 34$              | 1.10         | nnn |
| GJ 2131 A          | MS:M1           | 073.D-0516 | 53 192.133 | 600B  | $181 \pm 84$              | 0.94         | $-62 \pm 87$              | 1.01         | -nn |
| GJ 2131 A          | MS:M1           | 073.D-0516 | 53 193.150 | 600B  | $138 \pm 124$             | 0.42         | $-70 \pm 123$             | 0.42         | -nn |
| HD 161277          | MS:B9:AP        | 073.D-0464 | 53 134.341 | 600B  | $66 \pm 37$               | 1.00         | $-54 \pm 44$              | 0.94         | nnn |
| HD 161459          | MS:A2:M.AP.ROAP | 269.D-5044 | 52 476.123 | 600B  | $-2118 \pm 79$            | 2.16         | $46 \pm 57$               | 1.15         | DDD |
| HD 161783          | MS:B2:SPB.SB.EB | 073.D-0466 | 53 151.281 | 600B  | $70 \pm 50$               | 0.78         | $-78 \pm 55$              | 0.97         | nnn |
| HD 161783          | MS:B2:SPB.SB.EB | 075.D-0295 | 53 487.333 | 1200g | $-77 \pm 40$              | 0.95         | $38 \pm 45$               | 0.88         | nnn |
| HD 161783          | MS:B2:SPB.SB.EB | 075.D-0295 | 53 598.108 | 1200g | $-185 \pm 122$            | 0.90         | $-277 \pm 117$            | 0.84         | nnn |
| HD 161783          | MS:B2:SPB.SB.EB | 075.D-0295 | 53 599.118 | 1200g | $-3 \pm 45$               | 0.95         | $-65 \pm 43$              | 0.86         | nnn |
| HD 162305North     | MS:B9:AP        | 073.D-0498 | 53 220.275 | 600B  | $18 \pm 60$               | 0.91         | $28 \pm 61$               | 0.95         | nnn |
| HD 162305South     | MS:B9:AP        | 073.D-0498 | 53 220.244 | 600B  | $-66 \pm 59$              | 0.89         | $-109 \pm 58$             | 0.87         | nnn |
| HD 162305          | MS:B9:AP        | 073.D-0498 | 53 274.097 | 600B  | $178 \pm 76$              | 0.86         | $-138 \pm 79$             | 0.93         | nnn |
| 17:52:04 -34:55:08 | ?:K             | 073.D-0498 | 53 240.073 | 600B  | $218 \pm 125$             | 0.57         | $-77 \pm 128$             | 0.60         | -nn |
| HD 320765          | MS:A2           | 073.D-0498 | 53 240.073 | 600B  | $-32 \pm 62$              | 0.47         | $92 \pm 63$               | 0.49         | nnn |
| HD 320764          | MS:A1           | 073.D-0498 | 53 240.073 | 600B  | $-136 \pm 67$             | 0.48         | $-155 \pm 68$             | 0.51         | nnn |
| HD 162678          | MS:B9           | 073.D-0498 | 53 219.275 | 600B  | $2 \pm 27$                | 0.55         | $-13 \pm 30$              | 0.59         | nnn |
| HD 162724          | MS:B9           | 073.D-0498 | 53 219.275 | 600B  | $-57 \pm 38$              | 0.49         | $-7 \pm 41$               | 0.49         | nnn |
| HD 162725          | MS:A0:M.AP      | 073.D-0498 | 53 219.275 | 600B  | $-44 \pm 25$              | 0.50         | $-24 \pm 26$              | 0.47         | nnn |
| HD 162725          | MS:A0:M.AP      | 080.D-0383 | 54 549.413 | 600B  | $58 \pm 35$               | 0.76         | $0 \pm 42$                | 0.74         | nnn |
| HD 162978          | SG:O7           | 075.D-0432 | 53 556.258 | 600B  | $2 \pm 63$                | 0.91         | $-4 \pm 64$               | 0.95         | nnn |
| HD 162978          | SG:O7           | 075.D-0432 | 53 595.116 | 600B  | $68 \pm 74$               | 1.02         | $-121 \pm 69$             | 0.89         | nnn |
| HD 162978          | SG:O7           | 075.D-0432 | 53 604.144 | 600B  | $44 \pm 66$               | 0.75         | $30 \pm 72$               | 0.90         | nnn |
| HD 163472          | MS:B2:M.BCEP    | 073.D-0466 | 53 151.298 | 600B  | $-201 \pm 43$             | 0.93         | $85 \pm 43$               | 0.92         | ndd |
| HD 163336          | MS:A0           | 077.D-0556 | 53 976.163 | 600B  | $60 \pm 48$               | 0.94         | $86 \pm 50$               | 1.04         | nnn |
| HD 163296          | PM:A1:E         | 081.C-0410 | 54 610.255 | 600B  | $-8 \pm 44$               | 0.75         | $-64 \pm 45$              | 0.79         | nnn |
| HD 163296          | PM:A1:E         | 074.C-0463 | 53 279.016 | 1200g | $-56 \pm 34$              | 1.08         | $-68 \pm 34$              | 0.95         | nnn |
| HD 163254          | MS:B2:SPB       | 079.D-0241 | 54 344.069 | 600B  | $-50 \pm 51$              | 0.73         | $-128 \pm 62$             | 0.70         | nnn |
| HD 164245          | MS:B7           | 079.D-0241 | 54 345.140 | 600B  | $-14 \pm 44$              | 0.77         | $54 \pm 55$               | 0.75         | nnn |
| HD 164249          | MS:F5:CSD       | 081.C-0410 | 54 610.301 | 600B  | $-42 \pm 19$              | 0.90         | $30 \pm 21$               | 0.75         | nnn |
| HD 164794          | MS:O4           | 075.D-0432 | 53 520.356 | 600B  | $21 \pm 65$               | 1.04         | $-31 \pm 64$              | 1.03         | nnn |
| HD 164794          | MS:O4           | 075.D-0432 | 53 594.120 | 600B  | $199 \pm 76$              | 0.96         | $116 \pm 74$              | 0.91         | nnn |
| HD 164794          | MS:O4           | 075.D-0432 | 53 595.096 | 600B  | $-27 \pm 69$              | 0.85         | $97 \pm 76$               | 1.03         | nnn |
| V426 Oph           | WD:CV           | 079.D-0697 | 54 311.080 | 1200B |                           |              |                           |              | -   |
| V426 Oph           | WD:CV           | 081.D-0670 | 54 693.058 | 1200B |                           |              |                           |              | -   |
| V426 Oph           | WD:CV           | 081.D-0670 | 54 694.052 | 1200B |                           |              |                           |              | -   |
| HD 166197          | MS:B1           | 079.D-0241 | 54 345.154 | 600B  | $-56 \pm 51$              | 0.77         | $-68 \pm 62$              | 0.73         | nnn |
| HD 166469          | MS:A0:AP        | 073.D-0464 | 53 136.273 | 600B  | $-2 \pm 42$               | 0.93         | $-17 \pm 42$              | 0.94         | nnn |
| BD-14 4922         | GS:O9           | 067.D-0306 | 52 048.283 | 600R  | $970 \pm 547$             | 0.98         |                           |              | nnn |
| BD-14 4922         | GS:O9           | 067.D-0306 | 52 078.270 | 600R  | $1876 \pm 875$            | 0.89         |                           |              | nnn |
| HD 166469          | MS:A0:AP        | 071.D-0308 | 52 793.291 | 600B  | $-27 \pm 56$              | 1.12         | $51 \pm 55$               | 1.09         | nnn |
| HD 166473          | MS:A5:M.AP.ROAP | 079.D-0240 | 54 209.327 | 600B  | $2296 \pm 41$             | 2.79         | $-20 \pm 22$              | 0.80         | DDD |
| HD 166473          | MS:A5:M.AP.ROAP | 079.D-0240 | 54 247.193 | 600B  | $2257 \pm 50$             | 1.70         | $49 \pm 34$               | 0.78         | DDD |
| HD 166473          | MS:A5:M.AP.ROAP | 079.D-0240 | 54 250.396 | 600B  | $2273 \pm 43$             | 2.52         | $-10 \pm 23$              | 0.75         | DDD |
| HD 166473          | MS:A5:M.AP.ROAP | 079.D-0240 | 54 308.285 | 600B  | $2404 \pm 42$             | 3.06         | $12 \pm 21$               | 0.78         | DDD |
| HD 167263          | GS:O9           | 075.D-0432 | 53 594.142 | 600B  | $131 \pm 84$              | 1.02         | $24 \pm 88$               | 1.12         | nnn |
| HD 167263          | GS:O9           | 075.D-0432 | 53 595.015 | 600B  | $-46 \pm 61$              | 1.14         | $-5 \pm 57$               | 0.99         | nnn |
| HD 167263          | GS:O9           | 075.D-0432 | 53 596.112 | 600B  | $-7 \pm 54$               | 0.96         | $47 \pm 54$               | 0.93         | nnn |
| HD 167771          | GS:O7           | 075.D-0432 | 53 520.377 | 600B  | $-99 \pm 65$              | 0.93         | $-44 \pm 60$              | 0.81         | nnn |
| HD 167771          | GS:O7           | 075.D-0432 | 53 594.164 | 600B  | $-121 \pm 116$            | 1.25         | $-70 \pm 113$             | 1.18         | nnn |
| HD 167771          | GS:O7           | 075.D-0432 | 53 594.240 | 600B  | $47 \pm 38$               | 0.84         | $-26 \pm 37$              | 0.84         | nnn |
| HD 167771          | GS:O7           | 075.D-0432 | 53 595.066 | 600B  | $39 \pm 87$               | 1.13         | $-123 \pm 80$             | 0.93         | nnn |
| HD 168957          | MS:B3:E         | 075.D-0507 | 53 572.158 | 1200g | $-30 \pm 71$              | 1.26         | $46 \pm 68$               | 1.15         | nnn |
| HD 168856          | MS:B9:M.AP      | 073.D-0464 | 53 144.341 | 600B  | $-525 \pm 42$             | 0.98         | $22 \pm 51$               | 0.95         | DDD |
| HD 169033          | MS:B5           | 079.D-0241 | 54 344.144 | 600B  | $-50 \pm 43$              | 0.77         | $154 \pm 52$              | 0.77         | nnn |
| HD 169142          | PM:A9:E         | 081.C-0410 | 54 610.175 | 600B  | $20 \pm 24$               | 0.75         | $60 \pm 25$               | 0.76         | nnn |
| HD 169820          | MS:B9:SPB       | 073.D-0466 | 53 151.312 | 600B  | $55 \pm 57$               | 0.89         | $-78 \pm 59$              | 0.93         | nnn |
| HD 169820          | MS:B9:SPB       | 075.D-0295 | 53 520.333 | 1200g | $-16 \pm 52$              | 0.90         | $111 \pm 52$              | 0.89         | nnn |
| HD 169820          | MS:B9:SPB       | 075.D-0295 | 53 597.112 | 1200g | $44 \pm 40$               | 1.03         | $48 \pm 38$               | 0.92         | nnn |
| HD 169820          | MS:B9:SPB       | 079.D-0241 | 54 345.124 | 600B  | $-49 \pm 41$              | 0.75         | $69 \pm 50$               | 0.75         | nnn |
| HD 169959A         | MS:A0:M.AP      | 073.D-0498 | 53 192.159 | 600B  | $-541 \pm 53$             | 0.89         | $110 \pm 54$              | 0.92         | DnD |
| HD 169467          | MS:B3:SPB       | 079.D-0241 | 54 345.166 | 600B  | $-49 \pm 39$              | 0.92         | $66 \pm 43$               | 0.81         | nnn |



Table 5. continued.

| Star         | Classification | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|--------------|----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 170054    | MS:B7:AP       | 073.D-0498 | 53 244.114 | 600B  | $-23 \pm 73$              | 0.93         | $12 \pm 73$               | 0.83         | nnn |
| HD 170054    | MS:B7:AP       | 073.D-0498 | 53 271.057 | 600B  | $-12 \pm 63$              | 0.79         | $34 \pm 67$               | 0.90         | nnn |
| VV Ser       | PM:B:SH.E      | 081.C-0410 | 54 610.332 | 600B  | $-135 \pm 131$            | 0.90         | $49 \pm 126$              | 0.81         | nnn |
| WD 1826-045  | WD:DA6         | 073.D-0516 | 53 193.179 | 600B  | $-2467 \pm 1477$          | 1.51         | $-301 \pm 1479$           | 1.50         | n-n |
| BD-19 5044 F | MS:B8          | 073.D-0498 | 53 240.107 | 600B  | $23 \pm 82$               | 0.56         | $-75 \pm 79$              | 0.52         | nnn |
| BD-19 5045   | MS:B5          | 073.D-0498 | 53 240.107 | 600B  | $26 \pm 57$               | 0.54         | $-24 \pm 53$              | 0.49         | nnn |
| BD-19 5044 L | MS:B8:M.AP     | 073.D-0498 | 53 240.107 | 600B  | $-287 \pm 100$            | 0.54         | $46 \pm 97$               | 0.50         | nnn |
| BD-19 5044 M | MS:B8          | 073.D-0498 | 53 240.107 | 600B  | $-51 \pm 103$             | 0.51         | $-161 \pm 98$             | 0.47         | nnn |
| BD-19 5046   | MS:A1          | 073.D-0498 | 53 240.107 | 600B  | $138 \pm 61$              | 0.55         | $30 \pm 56$               | 0.47         | nnn |
| HD 170836    | MS:B8:M.AP     | 073.D-0498 | 53 240.143 | 600B  | $-637 \pm 112$            | 0.53         | $57 \pm 109$              | 0.50         | DnD |
| HD 170836    | MS:B8:M.AP     | 073.D-0498 | 53 245.193 | 600B  | $-637 \pm 70$             | 0.50         | $-55 \pm 69$              | 0.48         | DdD |
| HD 170836    | MS:B8:M.AP     | 073.D-0498 | 53 274.121 | 600B  | $438 \pm 83$              | 0.64         | $37 \pm 76$               | 0.63         | ddD |
| HD 170835    | MS:B5          | 073.D-0498 | 53 240.143 | 600B  | $-293 \pm 187$            | 0.51         | $-61 \pm 194$             | 0.56         | nnn |
| HD 170835    | MS:B5          | 073.D-0498 | 53 245.193 | 600B  | $-69 \pm 125$             | 0.52         | $33 \pm 124$              | 0.52         | nnn |
| HD 170835    | MS:B5          | 073.D-0498 | 53 274.121 | 600B  | $-51 \pm 159$             | 0.65         | $-306 \pm 149$            | 0.64         | nnn |
| HD 170860A   | MS:B8:AP       | 073.D-0498 | 53 221.278 | 600B  | $27 \pm 84$               | 0.88         | $-102 \pm 83$             | 0.87         | nnn |
| HD 171184    | MS:A0:M.AP     | 071.D-0308 | 52 880.028 | 600B  | $119 \pm 40$              | 0.88         | $-27 \pm 40$              | 0.87         | dnn |
| HD 171184    | MS:A0:M.AP     | 073.D-0464 | 53 144.368 | 600B  | $-32 \pm 42$              | 1.30         | $32 \pm 41$               | 1.26         | nnn |
| HD 171034    | MS:B2:BCEP     | 079.D-0241 | 54 344.131 | 600B  | $9 \pm 33$                | 0.83         | $99 \pm 34$               | 0.87         | nnn |
| HD 171279    | MS:A0:AP       | 073.D-0464 | 53 144.393 | 600B  | $-54 \pm 34$              | 1.10         | $-65 \pm 31$              | 0.93         | nnn |
| HD 171858    | SD:B           | 075.D-0352 | 53 512.357 | 600B  | $-28 \pm 132$             | 0.85         | $42 \pm 166$              | 0.88         | nnn |
| HD 172032    | MS:A9:AP       | 073.D-0464 | 53 151.105 | 600B  | $-148 \pm 38$             | 1.12         | $40 \pm 35$               | 0.97         | ndd |
| BD-12 5133   | MS:B1          | 060.A-9203 | 52 822.396 | 600B  | $-38 \pm 1237$            | 1.08         | $-1008 \pm 1224$          | 1.06         | nnn |
| BD-12 5133   | MS:B1          | 060.A-9203 | 52 900.106 | 600B  | $-18 \pm 1090$            | 0.92         |                           |              | nnn |
| HD 172910    | MS:B2:BCEP     | 079.D-0241 | 54 345.178 | 600B  | $-50 \pm 35$              | 0.80         | $-7 \pm 43$               | 0.78         | nnn |
| HD 172555    | MS:A7:CSD      | 081.C-0410 | 54 610.287 | 600B  | $-29 \pm 24$              | 0.78         | $-19 \pm 24$              | 0.76         | nnn |
| WD 1845+019  | WD:DA2         | 073.D-0356 | 53 131.395 | 600B  | $244 \pm 811$             | 1.00         | $532 \pm 953$             | 0.93         | n-n |
| WD 1845+019  | WD:DA2         | 073.D-0356 | 53 136.389 | 600B  | $-41 \pm 692$             | 0.88         | $565 \pm 894$             | 1.05         | n-n |
| HD 174240    | MS:A1          | 077.D-0556 | 53 976.208 | 600B  | $18 \pm 50$               | 0.96         | $2 \pm 49$                | 0.96         | nnn |
| HD 175744    | MS:B9:AP       | 071.D-0308 | 52 880.054 | 600B  | $101 \pm 64$              | 0.87         | $98 \pm 78$               | 0.88         | nnn |
| HD 175744    | MS:B9:AP       | 071.D-0308 | 52 901.019 | 600B  | $319 \pm 88$              | 1.01         | $-120 \pm 87$             | 0.98         | nnd |
| HD 175640    | GS:B9          | 071.D-0308 | 52 901.032 | 600B  | $20 \pm 92$               | 1.04         | $-112 \pm 91$             | 1.01         | nnn |
| HD 175640    | GS:B9          | 072.D-0377 | 52 901.043 | 600B  | $83 \pm 82$               | 0.96         | $22 \pm 101$              | 0.92         | nnn |
| HD 176386    | PM:B9:E        | 081.C-0410 | 54 610.272 | 600B  | $-87 \pm 41$              | 0.77         | $-41 \pm 41$              | 0.78         | nnn |
| TY Cra       | PM:B8:E        | 074.C-0442 | 53 331.030 | 600B  | $-79 \pm 170$             | 1.37         | $105 \pm 157$             | 1.18         | n-n |
| TY Cra       | PM:B8:E        | 074.C-0442 | 53 332.028 | 1200g | $145 \pm 131$             | 1.08         | $81 \pm 119$              | 0.90         | nnn |
| CD-51 11879  | SD:O           | 075.D-0352 | 53 512.395 | 600B  | $359 \pm 247$             | 0.81         | $-53 \pm 298$             | 0.82         | nnn |
| HD 176387    | MS:A:RR        | 082.D-0342 | 54 781.007 | 1200B | $-149 \pm 48$             | 1.23         | $-89 \pm 45$              | 1.20         | nnd |
| HD 172690    | MS:A0:M.AP     | 073.D-0464 | 53 134.368 | 600B  | $222 \pm 51$              | 1.06         | $-41 \pm 51$              | 1.01         | dnd |
| HD 172690    | MS:A0:M.AP     | 071.D-0308 | 52 793.314 | 600B  | $-254 \pm 79$             | 0.91         | $92 \pm 78$               | 0.89         | nnd |
| HD 176196    | MS:B9:M.AP     | 071.D-0308 | 52 793.329 | 600B  | $338 \pm 69$              | 0.85         | $-37 \pm 68$              | 0.80         | dnd |
| HD 176196    | MS:B9:M.AP     | 073.D-0464 | 53 134.389 | 600B  | $175 \pm 51$              | 1.20         | $75 \pm 50$               | 1.13         | dnd |
| HD 177863    | MS:B8:SPB      | 073.D-0466 | 53 193.211 | 600B  | $-16 \pm 45$              | 0.98         | $-71 \pm 44$              | 0.94         | nnn |
| HD 177863    | MS:B8:SPB      | 075.D-0295 | 53 597.128 | 1200g | $-35 \pm 30$              | 1.00         | $12 \pm 29$               | 0.92         | nnn |
| HD 179218    | PM:A0:E        | 081.C-0410 | 54 609.360 | 600B  | $-57 \pm 30$              | 0.78         | $-7 \pm 29$               | 0.77         | nnn |
| HD 179588    | MS:B9:SPB      | 079.D-0241 | 54 343.135 | 600B  | $38 \pm 42$               | 0.78         | $-65 \pm 41$              | 0.75         | nnn |
| HD 179761    | MS:A0          | 071.D-0308 | 52 822.280 | 600B  | $-219 \pm 84$             | 0.92         | $163 \pm 86$              | 0.97         | dnn |
| HD 180642    | GS:B1:BCEP     | 079.D-0241 | 54 343.159 | 600B  | $-9 \pm 26$               | 0.74         | $41 \pm 27$               | 0.80         | nnn |
| HD 180642    | GS:B1:BCEP     | 079.D-0241 | 54 344.084 | 600B  | $119 \pm 36$              | 0.75         | $-2 \pm 43$               | 0.78         | ndd |
| HD 181558    | GS:B5:SPB      | 073.D-0466 | 53 193.251 | 600B  | $-63 \pm 39$              | 0.91         | $-16 \pm 39$              | 0.89         | nnn |
| HD 181558    | GS:B5:SPB      | 073.D-0466 | 53 227.184 | 600B  | $67 \pm 56$               | 0.99         | $78 \pm 52$               | 0.83         | nnn |
| HD 181558    | GS:B5:SPB      | 073.D-0466 | 53 274.145 | 600B  | $4 \pm 115$               | 0.95         | $-126 \pm 113$            | 0.91         | nnn |
| HD 181558    | GS:B5:SPB      | 073.D-0466 | 53 275.144 | 600B  | $67 \pm 50$               | 0.94         | $37 \pm 52$               | 0.88         | nnn |
| HD 181558    | GS:B5:SPB      | 075.D-0295 | 53 519.378 | 1200g | $17 \pm 43$               | 1.00         | $12 \pm 52$               | 0.94         | nnn |
| HD 181558    | GS:B5:SPB      | 075.D-0295 | 53 520.397 | 1200g | $-37 \pm 37$              | 1.07         | $26 \pm 34$               | 0.94         | nnn |
| HD 181558    | GS:B5:SPB      | 079.D-0241 | 54 344.167 | 600B  | $-109 \pm 36$             | 0.76         | $-23 \pm 44$              | 0.76         | nnd |
| WD 1919+145  | WD:DA5         | 073.D-0356 | 53 132.324 | 600B  | $-1455 \pm 754$           | 1.06         | $-769 \pm 938$            | 1.05         | n-n |
| WD 1919+145  | WD:DA5         | 073.D-0356 | 53 136.351 | 600B  | $-812 \pm 764$            | 0.98         | $426 \pm 784$             | 1.04         | n-n |
| HD 181616    | SG:B8:SB.CSD   | 279.D-5042 | 54 333.020 | 1200B | $-9 \pm 9$                | 3.19         | $8 \pm 5$                 | 1.08         | -nn |
| HD 181616    | SG:B8:SB.CSD   | 279.D-5042 | 54 343.098 | 1200B | $-60 \pm 8$               | 2.66         | $13 \pm 6$                | 1.31         | -DD |
| HD 181616    | SG:B8:SB.CSD   | 279.D-5042 | 54 361.071 | 1200B | $8 \pm 13$                | 1.52         | $9 \pm 10$                | 1.02         | -nn |
| HD 181616    | SG:B8:SB.CSD   | 075.D-0507 | 53 520.415 | 1200g | $-10 \pm 16$              | 2.17         | $8 \pm 11$                | 0.99         | -nn |
| HD 182255    | GS:B6:SPB      | 075.D-0295 | 53 514.317 | 1200g | $26 \pm 184$              | 1.66         | $-255 \pm 184$            | 1.66         | nnn |
| HD 182255    | GS:B6:V        | 073.D-0466 | 53 193.234 | 600B  | $127 \pm 45$              | 0.99         | $-37 \pm 45$              | 0.97         | nnn |
| HD 181327    | MS:F5:CSD      | 081.C-0410 | 54 610.364 | 600B  | $0 \pm 17$                | 0.98         | $48 \pm 14$               | 0.72         | nnn |

Table 5. continued.

| Star        | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 182180   | MS:B2:M.HES     | 081.D-2005 | 54 652.328 | 1200B | $-2431 \pm 183$           | 0.93         | $-23 \pm 179$             | 0.88         | DDD |
| HD 182180   | MS:B2:M.HES     | 081.D-2005 | 54 656.078 | 1200B | $-2154 \pm 186$           | 1.04         | $305 \pm 173$             | 0.92         | DDD |
| HD 182180   | MS:B2:M.HES     | 081.D-2005 | 54 656.146 | 1200B | $778 \pm 166$             | 1.33         | $426 \pm 134$             | 0.91         | ddd |
| HD 182180   | MS:B2:M.HES     | 081.D-2005 | 54 661.327 | 1200B | $-1421 \pm 215$           | 1.18         | $-216 \pm 197$            | 1.00         | DnD |
| HD 182180   | MS:B2:M.HES     | 081.D-2005 | 54 669.187 | 1200B | $-62 \pm 182$             | 1.14         | $587 \pm 153$             | 0.79         | nnn |
| HD 182180   | MS:B2:M.HES     | 081.D-2005 | 54 669.327 | 1200B | $2836 \pm 199$            | 1.21         | $-4 \pm 187$              | 1.07         | DDD |
| HD 182761   | MS:A0           | 077.D-0556 | 53 976.080 | 600B  | $6 \pm 62$                | 0.86         | $-44 \pm 61$              | 0.83         | nnn |
| HD 183133   | MS:B2:SPB       | 079.D-0241 | 54 344.179 | 600B  | $97 \pm 41$               | 0.71         | $17 \pm 53$               | 0.80         | nnn |
| HD 183806   | MS:A0:M.AP      | 071.D-0308 | 52 793.345 | 600B  | $-36 \pm 43$              | 0.91         | $-27 \pm 46$              | 1.02         | nnn |
| HD 183806   | MS:A0:M.AP      | 073.D-0464 | 53 120.424 | 600B  | $131 \pm 33$              | 1.14         | $-2 \pm 33$               | 0.90         | dnd |
| HD 185256   | MS:F0:M.AP.ROAP | 269.D-5044 | 52 476.175 | 600B  | $-771 \pm 58$             | 1.33         | $-57 \pm 49$              | 0.93         | DDD |
| HD 186122   | MS:B9:HGMN      | 071.D-0308 | 52 822.312 | 600B  | $88 \pm 66$               | 0.80         | $14 \pm 80$               | 0.92         | nnn |
| HD 186117   | MS:A0:AP        | 073.D-0464 | 53 134.413 | 600B  | $-120 \pm 39$             | 1.19         | $-41 \pm 36$              | 1.05         | ndd |
| HD 186117   | MS:A0:AP        | 073.D-0464 | 53 140.329 | 600B  | $21 \pm 37$               | 1.09         | $26 \pm 33$               | 0.90         | nnn |
| HD 186219   | GS:A4           | 077.D-0556 | 53 976.243 | 600B  | $76 \pm 25$               | 0.93         | $-30 \pm 24$              | 0.84         | ndd |
| HD 187474   | MS:A0:M.AP      | 069.D-0210 | 52 530.969 | 600R  | $-2471 \pm 116$           | 1.82         | $73 \pm 96$               | 0.96         | DDD |
| HD 188001   | SG:O7           | 075.D-0432 | 53 520.434 | 600B  | $93 \pm 57$               | 1.04         | $71 \pm 56$               | 1.00         | nnn |
| HD 188001   | SG:O7           | 075.D-0432 | 53 594.199 | 600B  | $119 \pm 38$              | 0.75         | $-16 \pm 38$              | 0.79         | ndd |
| HD 188001   | SG:O7           | 075.D-0432 | 53 595.149 | 600B  | $63 \pm 62$               | 1.26         | $-78 \pm 56$              | 1.04         | nnn |
| HD 188001   | SG:O7           | 075.D-0432 | 53 597.149 | 600B  | $-21 \pm 68$              | 0.88         | $29 \pm 68$               | 0.89         | nnn |
| HD 188042   | MS:A5:M.AP      | 060.A-9203 | 52 130.168 | 600R  | $1964 \pm 35$             | 1.66         | $-46 \pm 27$              | 0.93         | DDD |
| HD 188042   | MS:A5:M.AP      | 060.A-9203 | 52 130.176 | 600B  | $1909 \pm 42$             | 3.58         | $55 \pm 20$               | 0.81         | DDD |
| HD 188042   | MS:A5:M.AP      | 060.A-9203 | 52 130.270 | 600B  | $1987 \pm 51$             | 5.08         | $129 \pm 20$              | 0.81         | DDD |
| HD 188112   | MS:B9           | 075.D-0352 | 53 565.291 | 600B  | $157 \pm 749$             | 1.34         | $720 \pm 873$             | 1.17         | n-n |
| CD-23 15853 | SD:O            | 075.D-0352 | 53 533.347 | 600B  | $-292 \pm 566$            | 0.81         | $-508 \pm 653$            | 0.79         | n-n |
| WD 1952-206 | WD:DA6          | 073.D-0516 | 53 251.088 | 600B  | $1240 \pm 1138$           | 1.05         | $-1880 \pm 1151$          | 1.07         | n-n |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 048.303 | 600R  | $-40265 \pm 1422$         | 1.77         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 048.396 | 600R  | $-37 616 \pm 1466$        | 1.18         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 076.173 | 600R  | $-30 772 \pm 2124$        | 1.86         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 076.385 | 600R  | $-22 868 \pm 3477$        | 2.28         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 078.225 | 600R  | $-30 838 \pm 2119$        | 1.63         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 078.381 | 600R  | $-43 903 \pm 1998$        | 2.14         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 079.174 | 600R  | $-38 077 \pm 2995$        | 3.45         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 079.394 | 600R  | $-22 884 \pm 3662$        | 2.08         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 087.123 | 600R  | $-44 542 \pm 1664$        | 1.76         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 087.172 | 600R  | $-41 605 \pm 2025$        | 2.47         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 087.225 | 600R  | $-40 904 \pm 1368$        | 1.73         |                           |              | D-D |
| WD 1953-011 | WD:DA6:M        | 067.D-0306 | 52 087.270 | 600R  | $-37 784 \pm 1498$        | 0.87         |                           |              | D-D |
| HD 226868   | SG:O9:XRB       | 079.D-0549 | 54 270.267 | 1200B | $-15 \pm 55$              | 1.00         | $48 \pm 51$               | 0.88         | nnn |
| HD 226868   | SG:O9:XRB       | 079.D-0549 | 54 271.281 | 1200B | $5 \pm 43$                | 1.05         | $-47 \pm 41$              | 0.93         | nnn |
| HD 226868   | SG:O9:XRB       | 079.D-0549 | 54 272.262 | 1200B | $30 \pm 41$               | 1.00         | $39 \pm 40$               | 0.93         | nnn |
| HD 226868   | SG:O9:XRB       | 079.D-0549 | 54 277.311 | 1200B | $13 \pm 55$               | 1.04         | $70 \pm 54$               | 0.99         | nnn |
| HD 226868   | SG:O9:XRB       | 079.D-0549 | 54 281.210 | 1200B | $47 \pm 38$               | 1.04         | $-8 \pm 35$               | 0.89         | dnn |
| HD 226868   | SG:O9:XRB       | 079.D-0549 | 54 291.268 | 1200B | $150 \pm 37$              | 1.17         | $-48 \pm 33$              | 0.94         | ndd |
| HD 226868   | SG:O9:XRB       | 381.D-0138 | 54 662.213 | 1200B | $32 \pm 48$               | 1.04         | $-43 \pm 47$              | 0.99         | nnn |
| HD 226868   | SG:O9:XRB       | 381.D-0138 | 54 663.187 | 1200B | $156 \pm 44$              | 1.04         | $-82 \pm 41$              | 0.90         | ndd |
| HD 226868   | SG:O9:XRB       | 381.D-0138 | 54 664.194 | 1200B | $99 \pm 46$               | 1.08         | $-67 \pm 43$              | 0.97         | nnn |
| HD 226868   | SG:O9:XRB       | 381.D-0138 | 54 665.195 | 1200B | $57 \pm 39$               | 1.13         | $-58 \pm 33$              | 0.90         | nnn |
| HD 226868   | SG:O9:XRB       | 381.D-0138 | 54 671.207 | 1200B | $-20 \pm 35$              | 0.83         | $-50 \pm 30$              | 0.65         | nnn |
| HD 226868   | SG:O9:XRB       | 381.D-0138 | 54 672.230 | 1200B | $107 \pm 41$              | 1.17         | $-56 \pm 36$              | 0.91         | nnn |
| HD 226868   | SG:O9:XRB       | 381.D-0138 | 54 678.178 | 1200B | $44 \pm 36$               | 1.00         | $86 \pm 35$               | 0.94         | nnn |
| V1674 Cyg   | GS:F8:V         | 079.D-0549 | 54 269.283 | 1200B | $-28 \pm 23$              | 1.52         | $23 \pm 22$               | 1.04         | dnn |
| V1674 Cyg   | GS:F8:V         | 079.D-0549 | 54 270.267 | 1200B | $-6 \pm 22$               | 1.25         | $15 \pm 22$               | 1.23         | nnn |
| V1674 Cyg   | GS:F8:V         | 079.D-0549 | 54 271.281 | 1200B | $20 \pm 26$               | 1.40         | $-12 \pm 25$              | 1.30         | nnn |
| V1674 Cyg   | GS:F8:V         | 079.D-0549 | 54 272.262 | 1200B | $-4 \pm 23$               | 1.27         | $-21 \pm 21$              | 1.07         | nnn |
| V1674 Cyg   | GS:F8:V         | 079.D-0549 | 54 277.311 | 1200B | $-56 \pm 62$              | 5.80         | $-45 \pm 57$              | 5.04         | nnn |
| V1674 Cyg   | GS:F8:V         | 079.D-0549 | 54 281.210 | 1200B | $116 \pm 22$              | 1.45         | $30 \pm 21$               | 1.31         | ddD |
| V1674 Cyg   | GS:F8:V         | 079.D-0549 | 54 291.268 | 1200B | $18 \pm 18$               | 1.23         | $57 \pm 17$               | 1.16         | nnn |
| V1674 Cyg   | GS:F8:V         | 381.D-0138 | 54 662.213 | 1200B | $-94 \pm 44$              | 3.67         | $66 \pm 42$               | 3.35         | nnn |
| V1674 Cyg   | GS:F8:V         | 381.D-0138 | 54 663.187 | 1200B | $31 \pm 27$               | 1.66         | $32 \pm 26$               | 1.48         | nnn |
| V1674 Cyg   | GS:F8:V         | 381.D-0138 | 54 664.194 | 1200B | $-68 \pm 57$              | 4.16         | $-1 \pm 54$               | 3.77         | nnn |
| V1674 Cyg   | GS:F8:V         | 381.D-0138 | 54 665.195 | 1200B | $-25 \pm 21$              | 1.37         | $-12 \pm 19$              | 1.10         | nnn |
| V1674 Cyg   | GS:F8:V         | 381.D-0138 | 54 672.230 | 1200B | $-18 \pm 16$              | 1.34         | $-29 \pm 14$              | 1.11         | nnn |
| V1674 Cyg   | GS:F8:V         | 381.D-0138 | 54 678.178 | 1200B | $61 \pm 18$               | 1.32         | $-7 \pm 17$               | 1.19         | ndd |
| HD 190073   | PM:A2:M.PE      | 074.C-0442 | 53 330.016 | 600B  | $239 \pm 204$             | 1.21         | $-346 \pm 181$            | 0.95         | nnn |

Table 5. continued.

| Star        | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 190073   | PM:A2:M.PE      | 074.C-0442 | 53 330.030 | 1200g |                           |              |                           |              | –   |
| HD 190073   | PM:A2:M.PE      | 075.D-0507 | 53 514.369 | 1200g | 103 ± 63                  | 1.14         | –33 ± 53                  | 0.80         | nnn |
| HD 190073   | PM:A2:M.PE      | 075.D-0507 | 53 519.404 | 1200g | 29 ± 80                   | 1.18         | 3 ± 72                    | 0.96         | nnn |
| HD 190073   | PM:A2:M.PE      | 075.D-0507 | 53 596.151 | 1200g | 44 ± 73                   | 1.17         | –11 ± 71                  | 1.09         | nnn |
| HD 190073   | PM:A2:M.PE      | 081.C-0410 | 54 609.411 | 600B  | 14 ± 73                   | 1.00         | 59 ± 81                   | 0.76         | nnn |
| HD 191295   | GS:B7:SPB       | 079.D-0241 | 54 343.181 | 600B  | –45 ± 30                  | 0.77         | 53 ± 35                   | 0.73         | nnn |
| HD 191295   | GS:B7:SPB       | 079.D-0241 | 54 345.218 | 600B  | 15 ± 35                   | 0.73         | 102 ± 43                  | 0.77         | nnn |
| WD 2007-303 | WD:DA4          | 067.D-0306 | 52 076.437 | 600R  | 1056 ± 2814               | 0.94         |                           |              | n-n |
| WD 2007-303 | WD:DA4          | 073.D-0356 | 53 132.382 | 600B  | 312 ± 361                 | 1.08         | 383 ± 339                 | 0.95         | n-n |
| WD 2007-303 | WD:DA4          | 073.D-0356 | 53 138.373 | 600B  | –452 ± 394                | 0.88         | 670 ± 531                 | 1.06         | n-n |
| HD 190290   | MS:A0:M.AP.ROAP | 073.D-0498 | 53 193.349 | 600B  | 2747 ± 100                | 4.41         | 11 ± 46                   | 0.93         | DDD |
| HD 190290   | MS:A0:M.AP.ROAP | 269.D-5044 | 52 494.042 | 600B  | 3469 ± 103                | 5.16         | 77 ± 43                   | 0.90         | DDD |
| HD 190290   | MS:A0:M.AP.ROAP | 269.D-5044 | 52 498.032 | 600B  | 3417 ± 116                | 2.69         | 76 ± 67                   | 0.90         | DDD |
| HD 192674   | MS:B9:AP        | 073.D-0464 | 53 137.362 | 600B  | 102 ± 38                  | 0.99         | –21 ± 37                  | 0.90         | nnn |
| WD 2014-575 | WD:DA2          | 073.D-0356 | 53 140.360 | 600B  | 592 ± 1071                | 1.00         | –388 ± 1295               | 0.97         | n-n |
| WD 2014-575 | WD:DA2          | 073.D-0356 | 53 184.273 | 600B  | –5213 ± 2235              | 1.19         |                           |              | n-n |
| WD 2014-575 | WD:DA2          | 073.D-0356 | 53 185.107 | 600B  | 223 ± 1106                | 1.02         | 722 ± 1509                | 1.21         | n-n |
| HD 193756   | MS:A9:AP.ROAP   | 269.D-5044 | 52 498.074 | 600B  | –131 ± 39                 | 1.54         | –14 ± 34                  | 1.16         | ndd |
| HD 194783   | GS:B8           | 071.D-0308 | 52 793.361 | 600B  | 37 ± 62                   | 0.94         | 11 ± 60                   | 0.87         | nnn |
| HD 196470   | MS:A2:M.AP.ROAP | 269.D-5044 | 52 476.233 | 600B  | 1366 ± 43                 | 1.74         | –5 ± 32                   | 0.98         | DDD |
| WD 2039-202 | WD:DA3          | 060.A-9203 | 53 869.443 | 600B  | –3183 ± 1816              | 1.61         | 3053 ± 1920               | 1.81         | n-n |
| WD 2039-202 | WD:DA3          | 073.D-0322 | 53 148.420 | 300V  | 502 ± 655                 | 0.82         | –134 ± 678                | 0.86         | n-n |
| WD 2039-202 | WD:DA3          | 073.D-0356 | 53 143.362 | 600B  | –106 ± 639                | 1.10         | 300 ± 706                 | 0.91         | n-n |
| WD 2039-202 | WD:DA3          | 073.D-0356 | 53 167.393 | 600B  | 685 ± 390                 | 0.98         | 821 ± 457                 | 0.97         | n-n |
| HD 199180   | MS:A0:M.AP      | 071.D-0308 | 52 822.344 | 600B  | –398 ± 64                 | 0.97         | 49 ± 60                   | 0.84         | nDD |
| HD 199728   | MS:B9:M.AP      | 071.D-0308 | 52 822.357 | 600B  | –158 ± 59                 | 0.81         | 40 ± 60                   | 0.84         | nnn |
| RV Cap      | MS:A:RR         | 082.D-0342 | 54 783.080 | 1200B | –131 ± 72                 | 1.25         | –67 ± 72                  | 1.26         | nnn |
| HD 201018   | MS:A2:M.AP      | 073.D-0464 | 53 151.371 | 600B  | 582 ± 41                  | 1.97         | 14 ± 28                   | 0.92         | DDD |
| HD 201601   | MS:A9:M.AP.ROAP | 060.A-9203 | 53 335.011 | 600I  | –594 ± 57                 | 1.61         | –38 ± 44                  | 0.96         | DDD |
| HD 201601   | MS:A9:M.AP.ROAP | 077.D-0556 | 53 976.260 | 600B  | –1281 ± 61                | 1.91         | –27 ± 48                  | 1.21         | DDD |
| HD 201601   | MS:A9:M.AP.ROAP | 077.D-0556 | 53 976.268 | 1200B | –1459 ± 30                | 6.16         | –2 ± 16                   | 1.18         | DDD |
| HD 201601   | MS:A9:M.AP.ROAP | 069.D-0210 | 52 531.045 | 600R  | –1714 ± 51                | 6.91         | 86 ± 19                   | 1.03         | DDD |
| HD 201484   | MS:A:RR         | 082.D-0342 | 54 783.127 | 1200B | –75 ± 49                  | 1.22         | 53 ± 46                   | 1.13         | nnn |
| WD 2105-820 | WD:DA6.M        | 073.D-0516 | 53 199.317 | 600B  | 9117 ± 1400               | 1.18         | –1914 ± 1509              | 1.37         | D-D |
| WD 2105-820 | WD:DA6.M        | 073.D-0516 | 53 227.209 | 600B  | 9599 ± 846                | 1.02         | –1 ± 864                  | 1.07         | D-D |
| WD 2105-820 | WD:DA6.M        | 073.D-0516 | 53 192.269 | 600B  | 8254 ± 1327               | 1.42         | –417 ± 1210               | 1.16         | D-D |
| WD 2105-820 | WD:DA6.M        | 073.D-0516 | 53 193.278 | 600B  | 10 612 ± 984              | 1.16         | –910 ± 1007               | 1.22         | D-D |
| WD 2105-820 | WD:DA6.M        | 073.D-0516 | 53 197.294 | 600B  | 7173 ± 1534               | 1.21         | 809 ± 1521                | 1.19         | d-d |
| HD 202149   | MS:B9:HG        | 073.D-0464 | 53 137.413 | 600B  | 40 ± 36                   | 1.01         | 46 ± 37                   | 1.08         | nnn |
| HD 202627   | MS:A1:AP        | 071.D-0308 | 52 793.374 | 600B  | –117 ± 60                 | 0.94         | 141 ± 56                  | 0.83         | nnn |
| HD 202671   | MS:B7:HEW.MN    | 073.D-0464 | 53 151.411 | 600B  | –18 ± 51                  | 0.95         | –55 ± 50                  | 0.96         | nnn |
| WD 2115-560 | WD:DA6          | 073.D-0516 | 53 199.342 | 600B  | –1114 ± 1080              | 1.18         | –1562 ± 974               | 0.96         | n-n |
| WD 2115-560 | WD:DA6          | 073.D-0516 | 53 227.238 | 600B  | 304 ± 928                 | 1.09         | –103 ± 915                | 1.05         | n-n |
| HD 203932   | MS:A5:AP.ROAP   | 269.D-5044 | 52 498.112 | 600B  | –298 ± 60                 | 0.97         | 7 ± 59                    | 0.92         | dnd |
| HD 205805   | GS:B7           | 075.D-0352 | 53 533.384 | 600B  | –130 ± 115                | 0.93         | –210 ± 138                | 0.97         | nnn |
| HD 206540   | MS:B5:SPB       | 075.D-0295 | 53 514.416 | 1200g | –42 ± 41                  | 0.80         | 112 ± 40                  | 0.78         | nnn |
| HD 206540   | MS:B5:SPB       | 079.D-0241 | 54 344.220 | 600B  | –33 ± 29                  | 0.76         | –37 ± 29                  | 0.75         | nnn |
| HD 206653   | MS:B9:AP        | 071.D-0308 | 52 793.394 | 600B  | 37 ± 54                   | 0.81         | –4 ± 57                   | 0.88         | nnn |
| JL 87       | SD:B            | 075.D-0352 | 53 597.196 | 600B  | –120 ± 143                | 0.94         | –125 ± 177                | 0.95         | nnn |
| HD 205879   | MS:B8:SPB       | 079.D-0241 | 54 343.226 | 600B  | 90 ± 47                   | 0.79         | –86 ± 58                  | 0.77         | nnn |
| WD 2148+286 | SD:O            | 075.D-0352 | 53 533.414 | 600B  | –114 ± 400                | 0.76         | –914 ± 548                | 0.87         | nnn |
| WD 2149+021 | WD:DA3          | 073.D-0356 | 53 183.278 | 600B  | –340 ± 669                | 1.10         | 301 ± 805                 | 1.09         | n-n |
| WD 2149+021 | WD:DA3          | 073.D-0356 | 53 196.346 | 600B  | 139 ± 545                 | 0.83         | 1200 ± 695                | 0.92         | n-n |
| WD 2149+021 | WD:DA3          | 073.D-0356 | 53 222.200 | 600B  | 102 ± 509                 | 1.01         | 835 ± 569                 | 0.87         | n-n |
| HD 208057   | MS:B3:E.SP.B    | 073.D-0466 | 53 192.308 | 600B  | –170 ± 53                 | 0.93         | –86 ± 64                  | 0.94         | ndd |
| HD 208057   | MS:B3:E.SP.B    | 075.D-0295 | 53 597.166 | 1200g | –124 ± 35                 | 0.98         | 36 ± 34                   | 0.93         | ndd |
| WD 2151-015 | WD:DA6          | 073.D-0516 | 53 240.174 | 600B  | 661 ± 2297                | 1.36         | 4329 ± 2256               | 1.27         | n-n |
| WD 2151-015 | WD:DA6          | 073.D-0516 | 53 251.124 | 600B  | –1692 ± 926               | 0.96         | 667 ± 915                 | 0.95         | n-n |
| WD 2151-015 | WD:DA6          | 073.D-0516 | 53 252.120 | 600B  | –703 ± 1668               | 1.27         | –4305 ± 1814              | 1.51         | n-n |
| WD 2153-512 | WD:DQ7          | 082.D-0736 | 54 786.073 | 600B  |                           |              |                           |              | –   |
| BV Aqr      | MS:A:RR         | 082.D-0342 | 54 782.074 | 1200B | –10 ± 46                  | 1.18         | –34 ± 44                  | 1.11         | nnn |
| HD 209409   | MS:B7:E         | 077.D-0406 | 53 955.185 | 600B  | –70 ± 47                  | 1.15         | –56 ± 41                  | 0.79         | nnn |
| HD 209409   | MS:B7:E         | 380.D-0480 | 54 432.027 | 1200B | –77 ± 32                  | 0.75         | 1 ± 29                    | 0.64         | nnn |
| HD 209409   | MS:B7:E         | 380.D-0480 | 54 433.008 | 1200B | –63 ± 39                  | 0.94         | –21 ± 32                  | 0.67         | nnn |

Table 5. continued.

| Star        | Classification  | Prog. ID   | MJD        | grism | $\langle B_z \rangle$ (G) | $\chi^2/\nu$ | $\langle N_z \rangle$ (G) | $\chi^2/\nu$ | HmT |
|-------------|-----------------|------------|------------|-------|---------------------------|--------------|---------------------------|--------------|-----|
| HD 209459   | MS:B9           | 071.D-0308 | 52 822.381 | 600B  | $-24 \pm 65$              | 0.95         | $52 \pm 63$               | 0.91         | nnn |
| WD 2211-495 | WD:DA1          | 073.D-0356 | 53 140.401 | 600B  | $-69 \pm 1076$            | 0.85         | $-1592 \pm 1209$          | 0.85         | n-n |
| WD 2211-495 | WD:DA1          | 073.D-0356 | 53 185.246 | 600B  | $-1445 \pm 1124$          | 0.80         | $-2103 \pm 1282$          | 0.79         | n-n |
| HD 212385   | MS:A3:M.AP      | 071.D-0308 | 52 822.413 | 600B  | $338 \pm 43$              | 0.96         | $23 \pm 41$               | 0.89         | nDD |
| HD 212385   | MS:A3:M.AP      | 073.D-0464 | 53 184.297 | 600B  | $639 \pm 40$              | 2.02         | $-17 \pm 28$              | 1.02         | DDD |
| HD 212643   | MS:A0           | 074.C-0442 | 53 332.051 | 600B  | $194 \pm 67$              | 0.85         | $161 \pm 71$              | 0.94         | nnn |
| WD 2226-210 | WD:CP:DA0       | 075.D-0289 | 53 527.386 | 600B  | $-194 \pm 1174$           | 1.16         |                           |              | nnn |
| WD 2226-210 | WD:CP:DA0       | 075.D-0289 | 53 526.387 | 600B  | $3148 \pm 969$            | 1.07         | $-2074 \pm 1014$          | 1.20         | dnd |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 230.382 | 600B  | $753 \pm 87$              | 1.74         | $-23 \pm 59$              | 0.81         | nDD |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 248.387 | 600B  | $693 \pm 35$              | 0.89         | $81 \pm 32$               | 0.75         | DDD |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 269.420 | 600B  | $767 \pm 26$              | 1.11         | $21 \pm 22$               | 0.75         | DDD |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 279.198 | 600B  | $755 \pm 38$              | 0.93         | $24 \pm 33$               | 0.72         | DDD |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 288.365 | 600B  | $772 \pm 38$              | 0.92         | $74 \pm 35$               | 0.78         | DDD |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 297.404 | 600B  | $831 \pm 35$              | 0.93         | $15 \pm 31$               | 0.74         | DDD |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 305.186 | 600B  | $697 \pm 39$              | 0.91         | $-19 \pm 35$              | 0.74         | DDD |
| HD 213637   | MS:F1:M.AP.ROAP | 079.D-0240 | 54 316.150 | 600B  | $642 \pm 40$              | 0.82         | $19 \pm 39$               | 0.78         | DDD |
| HD 213637   | MS:F1:M.AP.ROAP | 269.D-5044 | 52 498.150 | 600B  | $856 \pm 45$              | 1.39         | $-42 \pm 36$              | 0.92         | DDD |
| HD 215789   | MS:A2:SB        | 077.D-0556 | 53 976.290 | 600B  | $16 \pm 84$               | 0.88         | $19 \pm 86$               | 0.93         | nnn |
| HD 215573   | MS:B6:SPB       | 072.D-0377 | 52 900.080 | 600B  | $196 \pm 64$              | 0.99         | $34 \pm 63$               | 0.96         | nnd |
| HD 215573   | MS:B6:SPB       | 073.D-0466 | 53 191.222 | 600B  | $-17 \pm 44$              | 1.00         | $23 \pm 42$               | 0.94         | nnn |
| HD 215573   | MS:B6:SPB       | 073.D-0466 | 53 192.290 | 600B  | $-73 \pm 36$              | 0.79         | $63 \pm 35$               | 0.75         | nnn |
| HD 215573   | MS:B6:SPB       | 075.D-0295 | 53 506.416 | 1200g | $50 \pm 38$               | 0.79         | $25 \pm 44$               | 0.72         | nnn |
| HD 215573   | MS:B6:SPB       | 075.D-0295 | 53 522.420 | 1200g | $67 \pm 95$               | 1.76         | $22 \pm 94$               | 1.73         | nnn |
| HD 215573   | MS:B6:SPB       | 079.D-0241 | 54 345.232 | 600B  | $56 \pm 39$               | 0.77         | $60 \pm 49$               | 0.79         | nnn |
| HD 215573   | MS:B6:SPB       | 078.D-0140 | 54 042.020 | 600B  | $225 \pm 68$              | 0.92         | $50 \pm 68$               | 0.93         | nnd |
| HD 215573   | MS:B6:SPB       | 079.D-0241 | 54 343.245 | 600B  | $-37 \pm 32$              | 0.75         | $106 \pm 40$              | 0.77         | nnn |
| LP 877-23   | SD:G            | 060.A-9203 | 52 476.268 | 600B  | $-419 \pm 553$            | 1.02         |                           |              | nnn |
| HD 217186   | MS:A1           | 077.D-0556 | 53 976.330 | 600B  | $101 \pm 45$              | 0.83         | $-20 \pm 59$              | 0.92         | nnn |
| HD 217522   | MS:F:M.AP.ROAP  | 060.A-9203 | 53 335.026 | 600I  | $-520 \pm 63$             | 1.56         | $65 \pm 59$               | 0.93         | DDD |
| HD 217522   | MS:F:M.AP.ROAP  | 269.D-5044 | 52 498.183 | 600B  | $-938 \pm 70$             | 1.50         | $123 \pm 53$              | 0.88         | DDD |
| HD 217522   | MS:F:M.AP.ROAP  | 069.D-0210 | 52 531.236 | 600R  | $-1063 \pm 44$            | 6.99         | $46 \pm 17$               | 1.10         | dDD |
| HD 218495   | MS:A2:M.AP.ROAP | 269.D-5044 | 52 519.225 | 600B  | $-1169 \pm 56$            | 1.20         | $-22 \pm 50$              | 0.95         | DDD |
| HD 218994   | MS:A:M.AP       | 079.D-0241 | 54 343.203 | 600B  | $430 \pm 30$              | 0.89         | $-2 \pm 34$               | 0.78         | DDD |
| HD 219571   | GS:F1:D         | 074.C-0463 | 53 279.040 | 1200g | $81 \pm 29$               | 1.25         | $34 \pm 34$               | 1.11         | ndn |
| WD 2317-054 | SD:O:HPM        | 080.D-0521 | 54 400.015 | 600B  | $-857 \pm 3266$           | 0.81         |                           |              | n-n |
| IP Peg      | WD:CV           | 079.D-0697 | 54 311.313 | 1200B |                           |              |                           |              | -   |
| IP Peg      | WD:CV           | 081.D-0670 | 54 693.286 | 1200B |                           |              |                           |              | -   |
| IP Peg      | WD:CV           | 081.D-0670 | 54 694.270 | 1200B |                           |              |                           |              | -   |
| WD 2322+137 | WD:DA9:HPM      | 080.D-0521 | 54 400.030 | 600B  |                           |              |                           |              | -   |
| HD 221507   | MS:B9:HGMN      | 072.D-0377 | 52 900.092 | 600B  | $-178 \pm 59$             | 0.94         | $-47 \pm 59$              | 0.94         | nnn |
| HD 221760   | MS:A2:AP        | 071.D-0308 | 52 793.415 | 600B  | $-26 \pm 75$              | 0.91         | $219 \pm 75$              | 0.90         | nnn |
| HD 221760   | MS:A2:AP        | 073.D-0464 | 53 184.314 | 600B  | $-36 \pm 31$              | 0.80         | $2 \pm 30$                | 0.75         | nnn |
| WD 2333-049 | WD:DA6          | 073.D-0516 | 53 274.201 | 600B  | $4478 \pm 5423$           | 1.10         |                           |              | n-n |
| NLTT 57760  | WD:DZ:HPM       | 080.D-0521 | 54 419.090 | 600B  |                           |              |                           |              | -   |
| CD-35 15910 | SD:B            | 075.D-0352 | 53 598.378 | 600B  | $258 \pm 239$             | 0.99         | $-371 \pm 251$            | 1.10         | nnn |
| HD 223640   | MS:B9:M.AP      | 071.D-0308 | 52 822.427 | 600B  | $-32 \pm 59$              | 0.80         | $-59 \pm 63$              | 0.94         | nnn |
| HD 224361   | MS:A1           | 077.D-0556 | 53 976.313 | 600B  | $-83 \pm 81$              | 1.06         | $-144 \pm 82$             | 1.08         | nnn |
| HD 224392   | MS:A1           | 077.D-0556 | 53 976.347 | 600B  | $-57 \pm 43$              | 0.77         | $42 \pm 48$               | 0.74         | nnn |
| HD 224686   | MS:B9:E         | 077.D-0406 | 53 869.405 | 600B  | $30 \pm 17$               | 0.82         | $31 \pm 17$               | 0.77         | nnn |
| HD 224686   | MS:B9:E         | 380.D-0480 | 54 432.065 | 1200B | $58 \pm 33$               | 0.82         | $46 \pm 30$               | 0.70         | nnn |