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VLT multi-object spectroscopy of 33 eclipsing binaries in the Small Magellanic Cloud

New distance and depth of the SMC, and a record-breaking apsidal motion *(Corrigendum)*

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Minus signs had been accidentally dropped in Table 9, which compares the dynamical mass with the theoretical mass obtained from interpolation of evolutionary tracks in the HR diagram. Furthermore, the error bars had been omitted. We provide here the corrected Table 9. The errors on $\Delta\mathcal{M}$ are computed according to the formula

$$\sigma^2(\Delta\mathcal{M}) = \sigma^2(\mathcal{M}) + \sigma^2(\mathcal{M}_{\rm int})$$

where $\mathcal{M}$ is the dynamical mass and $\mathcal{M}_{\rm int}$ is the mass interpolated in the HR diagram from the theoretical evolutionary tracks. One has

$$\sigma(\mathcal{M}_{\rm int}) = \frac{1}{2}\left[\mathcal{M}_{\rm int}(T_{\rm eff,max}, L_{\rm max}) - \mathcal{M}_{\rm int}(T_{\rm eff,min}, L_{\rm min})\right]$$

with $T_{\rm eff,max,min} = T_{\rm eff} \pm \sigma(T_{\rm eff})$ and $L_{\rm max,min} = L \pm \sigma(L)$.

The interpolation procedure was tested by running it on a grid of only 5 evolutionary tracks (3, 5, 9, 15, 25 $M_\odot$) instead of 9 (2.5, 3, 4, 5, 7, 9, 12, 15, 20 $M_\odot$); it recovered the values interpolated in the full grid to better than 0.01 $M_\odot$ in most cases, an to within a few times 0.01 $M_\odot$ in some unfavourable cases.

Figure 9, which corresponds to Table 9, was correct.

These corrections do not affect the conclusion that many components of detached systems appear slightly overluminous for their dynamical mass, or that their evolutionary mass tend to be larger than their dynamical mass, a trend also pointed out recently by Massey et al. (2012).

Table 9. Comparison with theoretical evolutionary models: difference between the evolutionary and observed masses.

Object	Model	$\Delta\mathcal{M}_{\rm P}$ ($\mathcal{M}_\odot$)	$\Delta\mathcal{M}_{\rm S}$ ($\mathcal{M}_\odot$)
4 110 409	sd	1.08 ± 0.99	1.92 ± 0.55
4 113 853	sd	1.50 ± 0.58	0.85 ± 0.39
4 117 831	d	0.39 ± 0.31	0.37 ± 0.35
4 121 084	d	1.50 ± 0.65	1.40 ± 0.58
4 121 110	d	1.48 ± 0.64	0.92 ± 0.47
4 121 461	d	0.73 ± 0.47	0.43 ± 0.50
4 159 928	sd	1.09 ± 0.84	0.57 ± 0.46
4 160 094	d	0.85 ± 0.94	0.26 ± 0.71
4 163 552	d	−0.22 ± 0.86	−0.20 ± 0.83
4 175 149	sd	4.14 ± 0.60	5.09 ± 0.46
4 175 333	d	1.01 ± 0.37	0.80 ± 0.32
5 016 658	d	0.30 ± 0.48	0.65 ± 0.45
5 026 631	sd	0.92 ± 0.47	−0.46 ± 0.32
5 032 412	d	0.92 ± 0.44	0.21 ± 0.42
5 038 089	d	1.76 ± 0.26	2.35 ± 0.34
5 095 337	d	1.24 ± 0.90	0.93 ± 0.76
5 095 557	d	1.22 ± 0.75	0.64 ± 0.68
5 100 485	d	0.41 ± 0.30	0.63 ± 0.31
5 100 731	c	−0.25 ± 0.61	−0.69 ± 0.60
5 106 039	sd	0.81 ± 0.44	1.12 ± 0.26
5 111 649	d	0.16 ± 0.19	0.48 ± 0.20
5 123 390	d	1.24 ± 0.51	2.57 ± 0.60
5 180 185	d	−0.39 ± 0.24	0.05 ± 0.33
5 180 576	d	1.12 ± 0.70	−0.08 ± 0.55
5 185 408	d	0.77 ± 0.35	0.94 ± 0.38
5 196 565	d	0.45 ± 0.36	−0.24 ± 0.32
5 261 267	sd	1.92 ± 0.77	1.57 ± 0.39
5 265 970	d	0.00 ± 0.43	0.26 ± 0.36
5 266 015	sd	0.39 ± 0.62	2.74 ± 0.32
5 266 131	d	0.64 ± 0.57	0.45 ± 0.49
5 266 513	d	0.19 ± 0.65	0.46 ± 0.58
5 277 080	sd	3.14 ± 0.68	2.33 ± 0.35
5 283 079	d	0.70 ± 0.50	0.67 ± 0.52

Notes. The "P" and "S" subscripts stand for "primary" and "secondary" component respectively.

References

Massey, P., Morrell, N. I., Neugent, K. F., et al. 2012, ApJ, in press [arXiv:astro-ph/1201.3280]