

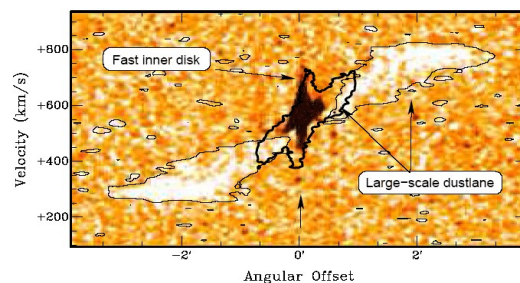
## HIGHLIGHTS: this week in A&A

Volume 485-2 (July II 2008)

### In section 1. Letters

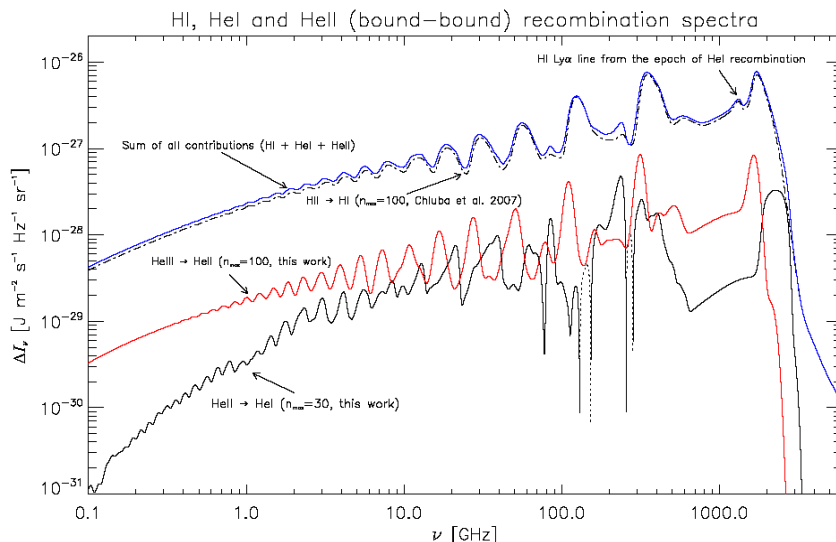
**"A circumnuclear disk of atomic hydrogen in Centaurus A",**  
by R. Morganti et al., *A&A* 485, p. L5

This is the first detection of blueshifted HI absorption in front of the Centaurus A nucleus radiosource. Previously, only redshifted HI absorption has been detected and an infall onto the AGN suggested. Now the blueshifted component, together with the wide profile, suggests that the HI gas is in a circumnuclear disk, as is the CO-emitting component.



### In section 3. Cosmology

**"Lines in the cosmic microwave background spectrum from the epoch of cosmological helium recombination",**  
by J.A. Rubiño-Martín et al., *A&A* 485, p. 377



After the big bang, the cosmic plasma was left in a highly ionized state until it became energetically favorable for electrons and protons to recombine when the temperature dropped below 0.3 eV (redshift  $z \sim 1300$ ). The recombination epoch is one of the milestones of the hot big bang theory and it is routinely investigated through the features it has left on the cosmic microwave background. However, much before that epoch ( $z > 2500$ ), Helium atoms followed the same route. The authors propose using the calculated recombination spectrum of these species to determine the primordial He abundance prior to the formation of the first stars. Also some of the fine structure transitions of neutral helium imprint unique absorption features in the cosmic microwave background blackbody spectrum.

### In section 1. Letters

**"Discovery of a strong Baldwin effect in mid-infrared AGN lines",** by S.F. Hönl et al., *A&A* 485, p. L21.  
For the first time, the authors have established a strong Baldwin effect in the mid-infrared lines of eight Seyfert galaxies. This effect is the anti-correlation of the equivalent width of lines with the continuum luminosity. The results question the currently favored hypothesis for explaining the effect.

### In section 13. Astronomical instrumentation

**"A new signal processing platform for radio astronomy",** by A.W. Hotan, *A&A* 485, p. 615.  
Flexible, small, and effective backend spectrometers are an essential part of the analysis chain for heterodyne radioastronomical observations. The authors describe the implementation of a very flexible backend design for astronomical use from an off-the-shelf signal-processing board, for which they only had to develop high-level software. This represents a promising new route to backend design for radioastronomy.