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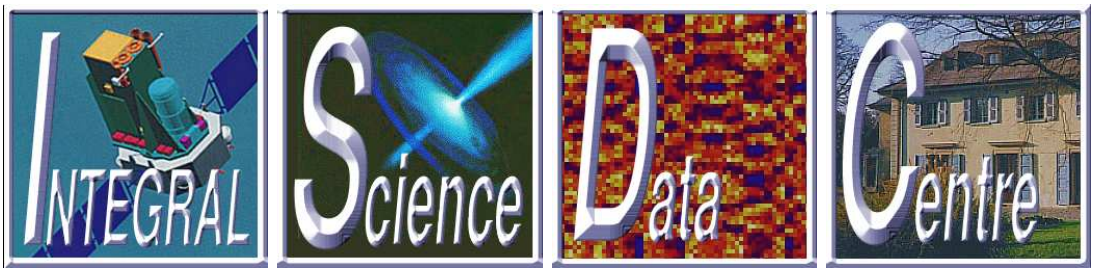
ASTROPHYSICS SEMINAR



Thursday, 24 January 2008 at 11:00

The high-mass X-ray binaries Cyg X-3 and Cyg X-1

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Abstract. I will discuss results of fitting the X-ray spectra of Cyg X-3 and the implications for the absorbing stellar wind. We measure the mass-loss rate and find it to agree with independent estimates. The wind is two-phase, with the filling factor of the clumpy part of 0.01. The bolometric luminosity indicates the presence of a black-hole. Then I will discuss a study of precessional variability of Cyg X-1 and a discovery of an accretion bulge. Comptonization anisotropy of the X-ray emission of a precessing disc and Doppler anisotropy of the radio emission of a precessing jet explain well the superorbital periodicity of Cyg X-1. We find the disc tilt of 10-20 degrees and the jet velocity of (0.3-0.5)c. Then we discover a dependence of the X-ray orbital modulation on the superorbital phase, which is well explained by absorption in a bulge at the disc outer edge.

Additional Information

The seminars are given in the ISDC "Pavillon" building
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