



*I N T E G R A L*  
SCIENCE DATA CENTRE

Centre attaché à l'Observatoire de Genève



UNIVERSITÉ DE GENÈVE

## ASTROPHYSICS SEMINAR



Tuesday, July 15, 2003 at 11:00

# The variable Cyclotron Line in GX 301-2

**Ingo Kreykenbohm**  
(IAA Tübingen, Germany)

**Abstract.** We present observations of the High Mass X-ray Binary GX 301-2 taken in 2000 November with the Rossi X-ray Timing Explorer. The neutron star orbits its companion, the B1 Ia+ hyper giant Wray 977, in an eccentric 41.5 day orbit. During periastron passage the neutron star passes through the outer atmosphere in a height of  $0.1 R_{\text{star}}$  above Wray 977, resulting in strong X-ray flaring activity.

We observed the system for  $\sim 200$  ksec during the pre-periastron flare and the actual periastron passage of the neutron star. To model the spectrum we use a power law with the Fermi Dirac cutoff and a cyclotron line at higher energies plus either a reflection component or a heavily absorbed partial covering component. Phase resolved spectra show that the energy and the depth of the cyclotron resonant scattering feature vary strongly with pulse phase: It is deepest in the rise of the secondary pulse, while it is relatively weak in the rise of the main pulse. The energy varies by more than 25% from  $\sim 29$  keV to  $\sim 39$  keV.

---

### Additional Information

---

The seminars are given in the ISDC "Pavillon" building

Address: INTEGRAL Science Data Centre, ch. d'Écogia 16, CH-1290 Versoix

WWW: ISDC Seminars: <http://isdc.unige.ch/index.cgi?Science+seminars>