



I N T E G R A L
SCIENCE DATA CENTRE

Centre attaché à l'Observatoire de Genève



UNIVERSITÉ DE GENÈVE

ASTROPHYSICS SEMINAR

INTEGRAL SCIENCE DATA CENTRE

Tuesday, March 11, 2003 at 11:00

Spectro-temporal Studies of Microquasars in X-rays

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Abstract. Microquasars are binary systems in our Galaxy composed of a normal star and a stellar mass black hole (or a neutron star). Their name comes from the fact that the compact object ejects matter in powerful jets similar to those observed in distant quasars. This talk will be dedicated to the study of three microquasars, hosting a black hole, mainly through the spectral and temporal properties of their soft (1-10 keV) and hard (10-100 keV) X-ray emissions.

I will first briefly define and present the useful terms and the basic physics underlying the phenomena occurring in the close vicinity of these objects from both the spectral and temporal point of view. I will then turn to the study of two microquasars, GRO J1655-40 and GRS 1915+105 and present the link between quasi-periodic oscillations (QPO) and spectral parameters. I show how the spectro-temporal behavior of both sources, although different, are in good agreement with the theoretical predictions of the Accretion-Ejection Instability (AEI).

A third object, XTE J1550-564, will be then studied over a period of outbursts. I will point out the presence of two different X-ray emitting media, whose relative geometry may be changing through the outburst. I will also present the evolution of low frequency QPOs and compare it to the theoretical predictions of some models of these features.

As a conclusion, I will discuss all these results in the framework of theoretical models compatible with the observations presented along this talk.

Additional Information

The seminars are given in the ISDC "Pavillon" building

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

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