



I N T E G R A L
SCIENCE DATA CENTRE

Centre attaché à l'Observatoire de Genève



UNIVERSITÉ DE GENÈVE

ASTROPHYSICS SEMINAR



Tuesday, September 23, 2003 at 11:00

Particle acceleration near black holes in galactic nuclei, microquasars and gamma-ray bursts

Andrii Neronov

(Theoretical Physics, Univ. de Lausanne)

Abstract. I consider a mechanism of extraction of rotational energy of a black hole in which strong electric field generated by the black hole rotation leads to production of large amount of high-energy particles in the vicinity of the horizon. Maximal energies of particles are limited by the synchrotron/curvature energy loss. In this synchrotron loss dominated regime the acceleration process is accompanied by strong gamma-ray emission from the acceleration volume. I argue that operation of the high energy particle accelerators in the vicinity of the black hole horizon can power the activity of low-luminosity AGNs, microquasars and gamma-ray bursts.

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>