International Center for Hadron Astrophysics
ICEHAP CHIBA UNIVERSITY

ICEHAP Seminar

Date Jan. 31 Friday 14：00～16：00

Location ICEHAP Office (Engineering Research Bldg.1 Room609-1)

By Dr. Samuel Barnier

(Osaka University, JSPS international fellow)

Title

『Accreting black holes: observational signatures, modeling and physical constraints』

Abstract

Accreting black holes (BHs), both stellar mass BHs in X-ray binaries and supermassive BHs in active galactic nuclei, are powered by the conversion of the gravitational potential energy from the matter falling down on the black hole. They emit high-energy emission in the UV, X-ray and Gamma ray from their accretion disks and corona and can produce both massive winds and powerful relativistic jets, usually observed in radio. In this seminar, I will present their behavior and observational signatures, from their thermal spectra and the more recently observed X-ray polarization to the non-thermal millimeter emission observed in AGNs and how it can be of interest for neutrino science. I will discuss an example of a physically motivated accretion-ejection model called the Jet-Emitting Disk - Standard Accretion Disk model and demonstrate its application to X-ray observations. I will also address how observational and model-dependent constraints can provide insights into the geometry and physics underlying the accretion and ejection processes around black holes.