



Physics Colloquium

Friday November 30th, 2012

4:10 – 5:00 pm, EPS108

“Testing Strong Gravity by X-Rays from Active Galactic Nuclei”

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Abstract:

Accretion-powered Active Galactic Nuclei (AGN) are among the most luminous objects in the observable universe. They are frequently proposed as ways of testing strong gravity. The test is based on X-rays emitted from regions very close to the central supermassive black hole (SMBH).

Currently, the most promising model involves ionized relativistic reflection. The reflection is generated by the illumination of ionized material near the inner edge of an optically thick accretion disk around a SMBH, by X-rays from a hot coronal source above the disk. It results in several prominent emission features, such as a broad Fe K alpha emission line near 6-7keV, a hard X-ray hump around ~30keV, and a soft X-ray excess. The spectrum of these features is blurred and distorted due to the effects of strong gravity. Using the X-ray data of AGN from satellite missions we are testing the effects of strong gravity by this model.

Host:

Sachiko Tsuruta

Refreshments 3:45 p.m.

EPS 2nd Floor Atrium