



भारतीय ताराभौतिकी संस्थान
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स्नातक अध्ययन मंडल **Board of Graduate Studies.**

Visiting Student's Programme Seminar

Speaker: Ms. Athira Nandakumar.

शीर्षक Title: Powering Mechanism of the Ultraluminous X-ray Source NGC 4395 X-1

सार Abstract

Ultra-luminous X-ray sources (ULXs) are off-nuclear sources having unusual luminosity in X-rays, nearly or higher than the Eddington limit. Though they have been studied extensively using data from different observatories, their powering mechanism is still a topic of debate. It is believed that stellar mass black holes (BHs) accreting in the super-Eddington limit, intermediate mass BHs accreting in the sub-Eddington regime or accreting in the super-Eddington regime with lower accretion efficiency can power such systems. In this work, we studied X-ray spectral variability of the ULX NGC 4395 X-1 using two decades of XMM-Newton observations from 2002 to 2022. It is one of the nearest ULXs detected outside our Galaxy at a distance of ~ 5 Mpc. The X-ray luminosity of this source is $(1-3) \times 10^{39}$ erg/s. This source also exhibited variability and X-ray flaring activities over time. All available spectra of the source are fitted using both phenomenological and physical models. In this talk, I will discuss the progress of the work in understanding the powering mechanism and the intrinsic properties of the central black hole from different model fitted parameters.

सोमवार Monday 23, सितम्बर September 2024

Time: 10:15 AM

Venue: प्रेक्षागृह Auditorium

सभी का स्वागत है All are welcome.