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広島大学極限宇宙研究拠点

Hiroshima University CORE-U Seminar

Speaker: Dr. INOUE Akihiro, 井上 壮大 氏

(Osaka University Theoretical Astro Physics
大阪大学宇宙進化グループ)

Title: General relativistic radiation MHD simulations of super-Eddington accretion flows onto a magnetized neutron star

Date : 18th.Oct.2024 (Fri.) (14:35-16:05)

2024年10月18日(金) (14:35-16:05)

Place: 広島大学理学部E102 (ハイブリッド)

Room E102, Faculty of Science, Hiroshima University

Abstract: See the back side of this poster

Language: Oral talk in Japanese/ Slides written in English

ZOOM Link (limited within 100)

<https://us04web.zoom.us/j/74161335751?pwd=USVuPRHGuRmUZDSChXbh1y9vzlJfdt.1>

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共同セミナーとしての認定は対面のみとします。出欠はセミナー終了時にE102で確認します。The participation of collaboration seminar will be verified after the talk at the room E102. Please bring the seat of the paper for the signature.

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広島大学極限宇宙研究拠点 (Core-U) セミナー 世話人

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Organizers : Yorito Yamaguchi, Tsunefumi Mizuno ,Takuya Morozumi

Abstract:

Gas accretion onto magnetized neutron stars exhibits a wide variety of observational signatures. To investigate the accretion physics around the neutron stars, a comparison between observations and numerical models is required. We have performed general relativistic radiation magnetohydrodynamics (MHD) simulations of accretion flows around neutron stars with dipole and quadrupole magnetic fields. In our model, an accretion disk forms far from the neutron star, and outflows driven by powerful radiation forces emanate from the disk. Near the neutron star, accretion flows along the star's magnetic field lines also appear. In this talk, I show that our model can explain the observations and discuss the magnetic field structure of the neutron star.