Department of Physics
THE UNIVERSITY OF HONG KONG

Physics Colloquium

Gravitational waves from tidal disruption events

Date: March 29, 2023 (Wednesday)
Time: 5:00 p.m.
Zoom Online Lecture: https://bit.ly/3ldo724
Meeting ID: 984 4647 6440
Password: 2859

Dr. Elena ROSSI
Leiden Observatory

Abstract:
A tidal disruption event (TDE) involves a star tidally disrupted by a massive black hole: such a seemingly simple event results in an observationally rich -- potentially multimessanger -phenomena, where many aspects are still poorly understood. In this talk I will present the multi messenger aspects of TDEs and then focus on their gravitational wave emission and prospects for detection with future space based missions.

Biography:
Elena M. Rossi is an Associate Professor at Leiden Observatory, where she was started in 2011. She is a theoretical astrophysicist, working on a broad range of topics, involving gas and star dynamics around compact objects and gravitational wave astrophysics. She received her PhD in 2005 from the Institute for Astronomy in Cambridge (UK), where she developed her “structured jet model”, which —among other applications — is now instrumental to interpret the emission following double neutron star mergers. Her work on gravitational wave sources such as supermassive black holes (formation and evolution) and white dwarf binaries (as galactic tracers) earned her a prominent position in the LISA consortium as Science Team co-chair. Her involvement in the ESA mission LISA started in 2006 while holding a NASA Chandra Fellowship at UC Boulder. As a postdoctoral fellow at Hebrew University, she started working on tidal disruption events and her multi-band modelling of the thermal emission and disc formation simulations have been highly impactful, so to be asked to be co-editor and author of the first review book on this topic. For her work on the Galactic Centre stellar dynamics and dark matter halo distribution with dynamical tracers, she has been awarded a ERC Consolidator grant in 2020.

Anyone interested is welcome to attend!

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