



INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A & 2B, Raja S. C. Mullick Road, Jadavpur, Kolkata-700 032

School of Physical Sciences

SEMINAR NOTICE

- Title : Tidal effects: hunt for the black hole horizon**
- Speaker : Dr. Sayak Datta, Albert Einstein Institute, Max Planck Institute, Hannover**
- Date : August 18, 2022 (Thursday)**
- Time : 15:00 hours (IST)**
- Venue : Physics Seminar Room (C-406), 3rd Floor, Centenary Building, IACS**

Abstract:

The defining feature of a classical black hole horizon is that it is a "perfect absorber". Any evidence showing otherwise would indicate a departure from the standard black-hole picture. Due to the presence of the horizon, black holes in binaries exchange energy with their orbit, which backreacts on the orbit. This is called tidal heating. Tidal heating along with other effects can be used to test (probe) the presence (modification) of a horizon. I will discuss the prospect of tidal heating as a discriminator between black holes and horizonless compact objects in ground based and space based gravitational wave observatories. In the end the impact of the black hole area quantization will also be discussed.

All are cordially invited to attend the seminar.