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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Astrophysics & Relativity Seminar (Online)

Title : Gamma-Ray Bursts (GRBs) as electromagnetic (EM) counterparts of Gravitational Wave (GW) sources with Fermi GBM

Speaker : Suman Bala (Science and Technology Institute)

Date : Tuesday, 20th March 2024

Time : 10:00 AM (IST)

Abstract : Gamma-Ray Bursts (GRBs) are the brightest explosions in the Universe since the Big Bang. We have comprehensive knowledge about the GRBs, but there are many open questions even after fifty years of the first detected GRB, especially about the prompt emission phase. The detection of gamma-ray burst GRB 170817A by Fermi-GBM, coinciding with gravitational wave GW170817, is one of the extraordinary discoveries in the history of multi messenger era. It is not only the first binary neutron star (BNS) merger detected by the advanced (LIGO-Virgo) GW detectors, it is the only GW detection with a confirmed electromagnetic (EM) counterpart. The Fermi Gamma-ray Burst Monitor (GBM) is an all sky monitoring instrument sensitive to photon energies from 8 keV to 40 MeV. Its capabilities makes it ideal for providing simultaneous gamma-ray observations of gravitational-wave transients. Fermi-GBM continues to look for similar multi messenger detections through on-board triggers as well as subthreshold searches for weak transients, performed both in high-time-resolution continuous data and in targeted follow-ups of gravitational-wave events. In this talk, I will present an overview of GRBs and recent results from targeted and subthreshold searches.

Venue : Please click on the below link to join the seminar

https://icts-res-in.zoom.us/j/93416476532?pwd=OUJIdFFJRHJ4NEJqdEFJTXc3Q25FUT09
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