Black Holes, Neutron Stars, and Gravitational Waves @ Black Sea



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Sparse-dictionary algorithms for GW reconstruction: applications

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Sparse dictionary learning (SDL) techniques have demonstrated strong potential for extracting astrophysical signals from noise in gravitational-wave (GW) astronomy. In this talk, I will provide an overview of SDL algorithms and discuss their application to a range of GW data analysis challenges. Examples will include glitch mitigation, classification of the equation of state in binary neutron star mergers, and signal detection in the context of the LISA mission. I will highlight both recent advances and open questions, emphasizing how SDL methods can contribute to the next generation of gravitational-wave discovery.

Author: Prof. TORRES FORNE, Alejandro (University of Valencia)

Presenter: Prof. TORRES FORNE, Alejandro (University of Valencia)