Софийски университет „Св. Климент Охридски“
Физически факултет

ФАКУЛТЕТЕН СЕМИНАР

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General Relativistic Magneto-Hydrodynamics for Neutron Star Gravitational Waves Sources

The past decade has seen a maturation of computational tools and methods for modelling gravitational wave (GW) sources through solving Einstein's equations in their full non-linearity. While the evolution of the spacetime has become standardized, focus is now on capturing the dominant physics of the matter whose dynamics generates these GWs. This talk will be an overview of the current state of the art and recent results in non-linear 3D general relativistic hydrodynamics (HD) and magneto-hydrodynamics (MHD) studies of gravitational wave sources with an emphasis for its application in the studies of neutron stars.