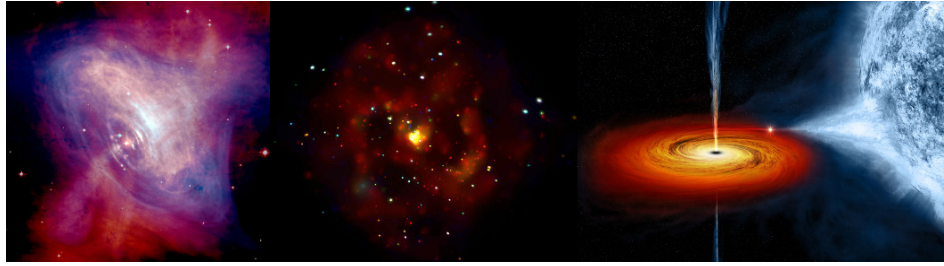


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Anisotropic charged compact stellar configurations in the perspective of gravitational decoupling approach

We construct the physically admissible charged compact star models threaded with anisotropic matter contents via gravitational decoupling approach. Durgapal IV solution containing charge is considered as seed solution for applying minimal geometric deformation approach. We extend the isotropic seed solution into anisotropic domain by imposing suitable mimic constraints on the physical variables i.e. pressure and density. The extended solution is employed to frame the models of dense relativistic structures. We study the geometrical and thermodynamic behavior of the models and examine the physically admissible attributes of the models via graphical patterns. The stability status of the compact entities is examined through different stability criteria. The essential energy bounds are found to be satisfied within the compact star models. We performed the extensive analysis of the model for the star RXJ 1856-37 having mass $0.9M_{\odot}$ and radius 6 km. The extended anisotropic solution is also compatible with observed masses as well as radii of some compact stars EXO 1785-248 and PSRJ1614-2230.

Presentation Type

Poster

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