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An anisotropic solution for neutron stars

In this work we obtained an anisotropic Neutron Star solution by a gravitational decoupling of sources. More precisely, we implement a method known as Minimal Geometric Deformation which allows to extended isotropic solutions to anisotropic domains with appropriated matching conditions. We have performed analytical calculations to show that, in this approach, the anisotropic solution has the same properties as its isotropic counterpart as pressures, density, and causality. Finally, we compare our results to the observational data of a Neutron star interior PSR J0348+0432 and also to the isotropic case.

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