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## Epicyclic oscillations in the Hartle-Thorne external geometry

The external Hartle-Thorne geometry, which describes the spacetime outside a slowly rotating compact star, is characterised by the gravitational mass M, angular momentum J, and quadrupole moment Q of the star and gives a convenient description, which, for the rotation frequencies of more than 95% of known pulsars, is sufficiently accurate for most purposes. Our investigation is motivated by X-ray observations of binary systems containing a rotating neutron star that is accreting matter from its binary companion. We use realistic equations of state for the stellar matter and proceed in a self-consistent way, following the Hartle-Thorne approach in calculating both the corresponding values of Q, M, and J for the stellar model and the properties of the surrounding spacetime. Our results are then applied to a range of geodetical models for QPOs.

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