

Non-Radial Oscillation Modes of Twin Stars in the Cowling Approximation

P. Laskos-Patkos, Ch.C. Moustakidis

Department of Theoretical Physics, Aristotle University of Thessaloniki,
54124 Thessaloniki, Greece

The observational distinction of compact two stars with comparable masses and significantly different radii would be a strong indication of a phase transition in dense nuclear matter. Motivated by previous works that attempted to investigate distinct observable quantities characterizing twin stars (stars with equal mass but different internal composition), in the present work we examine the frequencies of their non-radial oscillation modes. The analysis is performed within the relativistic Cowling approximation and to enrich and extend our study we also include twin configurations where the hybrid star lies at a slow stable descending branch of the $M - R$ diagram.

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