

## Gravitomagnetic Effects on Collective Plasma Oscillations in Compact Stars

Babur M. Mirza<sup>1</sup> and Hamid Saleem<sup>2,3</sup>

<sup>1</sup> Department of Mathematics, Quaid-i-Azam University, Islamabad 45320, Pakistan

<sup>2</sup> PINSTECH, Nilore, Islamabad, Pakistan

<sup>3</sup> COMSATS Institute of Information Technology, Islamabad, Pakistan

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**Abstract:** The effects of gravitomagnetic force on plasma oscillations are investigated using the kinetic theory of homogeneous electrically neutral plasma in the absence of external electric or magnetic field. The random phase assumption is employed neglecting the thermal motion of the electrons with respect to a fixed ion background. It is found that the gravitomagnetic force reduces the characteristic frequency of the plasma thus enhancing the refractive index of the medium. The estimates for the predicted effects are given for a typical white dwarf, pulsar, and neutron star.

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Key words: gravitomagnetism, compact stars, plasma oscillations

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