The 7th international conference on particle physics and astrophysics



Contribution ID : 52

Type : Oral talk

Tidal force in Newtonian gravity

Friday, 25 October 2024 18:30 (15)

In this presentation, I will delve into the behavior and impact of tidal forces within the realm of Newtonian gravity. I will provide concrete examples that illustrate solutions and outcomes by analyzing the Newtonian deviation equation. Furthermore, I will extensively explore the conditions under which tidal forces can exhibit compressive or disruptive effects by leveraging different model density profiles. Lastly, I will rigorously analyze the stability criteria for two density profiles, namely the Power Law and Sersic, using the Jog mass and length conditions in the presence of tidal forces, and draw comparisons to the Jeans mass and length in their absence.

Primary author(s): Mr. MALIK, Sameer (Indian Institute of Technology Kharagpur)
Presenter(s): Mr. MALIK, Sameer (Indian Institute of Technology Kharagpur)
Session Classification: Gravitation and Cosmology

Track Classification : Gravitation and cosmology