



## ON-AXIS TIDAL FORCES IN KERR SPACETIME

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The so-called Tidal Forces arise from the gravitational field and may cause stretching or compression in an extensive body. The term Tidal Forces is associated with the variation in the level of the sea due to the gravitational interaction with the Moon and the Sun. According to Newtonian gravitational theory, Tidal Forces arise due to a non-uniform gravitational field. In General Relativity, Tidal Forces are related to the curvature tensor through the geodesic deviation equation. We study the Tidal Forces in Kerr spacetime, which is a chargeless spinning black hole spacetime. We analyze the case in which the observer is moving along the axis of symmetry of the Kerr black hole.