

Abstract Submitted
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General Relativity Effects for Close In Gas Giants SANDIPAN BASU¹, Miami University, STEPHEN ALEXANDER², Miami University — Tests of Einstein's general theory of relativity (GR) did not provide an experimental foundation for the theory until well after it was introduced in 1915. Physicists accepted the theory because it correctly accounted for the precession of the perihelion of Mercury which is about 43 arc seconds per century. To date almost all of the extrasolar planets that have been discovered are Jupiter sized gas giants in orbits very close to their parent stars. There has been much work on the orbital stability and somewhat less work on the rotational stability of possible terrestrial planets in systems with close in Gas giants. In this research project we are testing the N-body code by calculating the precession of the perihelion of Mercury. We are ultimately concerned with the GR effects on extrasolar systems. We propose to include the effects of GR to the lowest order on the orbits of extrasolar systems to see if this has important effects on the orbital and/or rotational stability of any terrestrial planets in the system

¹Student

²Professor

Sandipan Basu
Miami University

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