Solar System Test for Alternative Gravity Theories[1] RICHARD
BUSTOS, Loyola Univ — Over the past year I've worked with Dr. Biswas and
Dr.Brans from Loyola University, on different aspects of General relativity. More
recently we have been focusing on particle and photon orbits in Schwarzschild-like
metric which is relevant to understand observations such as photon deflection and
perihelion precession of Mercury. These observations can be used to test alterna-
tive gravity theories, such as f(R) Theories. Such solar system tests have proved
extremely useful to constrain alternative theories of gravity, such as f(R) theories
that try to solve the dark energy problem. While so far most theorists have focused
on the simplest f(R) type of modification of gravity to realize the phase of late time
cosmic speed-up that we are observing, there are several other viable candidates.
In particular, many "effective" approaches to gravity gives rise to f(R,G) type of
modifications, where G is the Gauss Bonnet term. Accordingly, we are currently
trying to understand how solar system tests can constrain this more general class of
f(R,G) dark energy models. In my talk I will present our progress in this direction.

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