Contribution ID: **3** Type: **not specified**

A new approach to chameleon theories

Wednesday 16 April 2014 18:20 (10 minutes)

Most theories that predict time and/or space variation of fundamental constants also predict violations of the Weak Equivalence Principle (WEP). Khoury and Weltmann proposed the chameleon model in 2004 and claimed that this model avoids experimental bounds on WEP. Mota and Shaw analized the non-linear regime and concluded that only this case predicts no violations of the WEP while the linear and cuasilinear regimes do. We present a contrasting view based on a new calculation of the the two body problem for the chameleon field and show how the force depends on the test body composition.

Primary author: Dr KRAISELBURD, Lucila (Facultad de Ciencias Astronomicas y Geofisicas-Universidad Nacional de La Plata, Argentina)

Co-authors: Dr SUDARSKY, Daniel (nstituto de Ciencias Nucleares, UNAM, Mexico); Dr SALGADO, Marcelo (nstituto de Ciencias Nucleares, UNAM, Mexico); Dr LANDAU, Susana (Departamento de F´ısica de Buenos Aires, FCEN, Universidad de Buenos Aires, Argentina)

Presenter: Dr KRAISELBURD, Lucila (Facultad de Ciencias Astronomicas y Geofisicas-Universidad Nacional de La Plata, Argentina)

Session Classification: Afternoon session