Contribution ID: **111** Type: **not specified**

Evolving dimensions: theory and phenomenology

Tuesday 7 May 2013 18:15 (15 minutes)

Lower-dimensionality at higher energies has manifold theoretical advantages. Moreover, it appears that experimental evidence may already exists for it - a statistically significant planar alignment of events with energies higher than TeV has been observed in some earlier cosmic ray experiments. If this alignment is not a fluke, then the LHC should be able to see effects associated with the dimensional crossover. Further, (2+1)-dimensional spacetimes have no gravitational degrees of freedom, and gravity waves cannot be produced in that epoch in the early universe. This places a universal maximum frequency at which primordial gravity waves can propagate, which may be accessible to future gravitational wave detectors such as LISA or NGO. In this talk, the theoretical motivation for "evolving dimensions" as well as generic experimental and observational signature will be discussed. Also, a concrete string-inspired model that captures the basic idea of "evolving dimensions" will be presented.

Author: STOJKOVIC, Dejan (SUNY at Buffalo)

Presenter: STOJKOVIC, Dejan (SUNY at Buffalo)

Session Classification: Extra Dimensions