

Mini-Sessions

I. Gravity as an Emergent Phenomenon

Coordinator: T. Padmanabhan

Recent research suggests that gravity could be an emergent phenomenon like elasticity or fluid mechanics. Such an idea is fairly old – possibly dating back to Sakharov – and different researchers have tried to interpret, and implement this idea in different ways. This mini-session will examine the evidence for such a paradigm, some of the approaches, their current status and open issues. It will consist of a few short presentations with some time made available for open discussion.

Schedule of Talks

Thursday, December 15, 2011 : 1400 – 1730 Hall A

Speakers
Rong-Gen Cai
Shiraz Minwalla
T. Padmanabhan
Rafael Sorkin
Kip Thorne

II. Dark Energy

Coordinator: Varun Sahni

The Dark Energy session will focus on observational and theoretical aspects of an accelerating cosmology. It will cover future surveys, including DES, non-Einsteinian approaches to cosmic acceleration, and the affect of inhomogeneities on cosmological inferences of dark energy. It will also include an open discussion on various aspects of the accelerating universe and dark energy.

Schedule of Talks

Friday, December 16, 2011 : 1500 – 1830 Hall A

Speaker
Varun Sahni
Joshua Frieman
Eric Linder
<i>Coffee Break</i>
Marie-Noelle Celerier
Open Discussion

III. Astronomy with a Global Network of Gravitational Wave Detectors

Coordinator: B.S. Sathyaprakash

Gravitational wave detectors have quadrupolar antenna patterns with a wide sky coverage. Even a single detector would be sensitive to a third of the sky, but their ability to resolve a transient source is very poor. A global network of three or more detectors is essential to fully reconstruct the incident radiation and extract the best possible science. Since the current network of two detectors (LIGO) in the US, two in Europe (Virgo and GEO600), and Japan (LIGO) are roughly coplanar and don't fully exploit the global baseline that could, in principle, significantly improve the measurement of the source's parameters. The mini-session will discuss the advantages of extending the global network, in particular, of building a detector in India or Australia, with regard to improvements in the angular resolution of the network, enhanced accuracy in the estimation of the source's distance, polarization of the waves, and the inclination of the binary with respect to the line of sight.

Schedule of Talks

Sunday, December 18, 2011 : 1500 – 1830 Hall A

Time	Speaker
1500 – 1530	Chris Van Den Broeck
1530 – 1600	Stephen Fairhurst
1600 – 1630	Sergey Klimenko
1630 – 1700	<i>Coffee Break</i>
1700 – 1830	Round Table Discussion