

THEORETICAL PHYSICS SEMINAR

Title: Leggett-Garg Inequalities and Device-Independent
Randomness

Speaker: Dr. Sujit K. Choudhary, Institute of Physics, Bhubaneswar
Date/Time/Venue: 19th January (Monday)/11:00 AM/ Room No. 469

Please note the unusual time

Abstract

Leggett-Garg inequalities (LGI) are constraints on certain combinations of temporal correlations obtained by measuring one and the same system at two different instants of time. The usual derivations of LGI assume macroscopic realism per se and non-invasive measurability. We derive these inequalities under a different set of assumptions, namely the assumptions of predictability and no signalling in time (NSIT). As a novel implication of this derivation, we find application of LGI in randomness generation. It turns out that randomness can be generated from temporal correlations, even without knowing the details of the experimental devices, provided the observed correlations violate LGI but satisfy NSIT.

All are welcome to attend