THEORETICAL PHYSICS SEMINAR

Title: Common Origin of Neutrino Mass, Dark Matter and Dirac Leptogenesis

Speaker: Dr. Arnab Dasgupta, Institute of Physics, Bhubaneswar

Date/Time/Venue: May 11 (Thursday)/ 4:00 PM / Room No. 469

ABSTRACT

We study the possibility of generating tiny Dirac neutrino masses at one loop level through the scotogenic mechanism such that one of the particles going inside the loop can be a stable cold dark matter (DM) candidate. Majorana mass terms of singlet fermions as well as tree level Dirac neutrino masses are prevented by incorporating the presence of additional discrete symmetries in a minimal fashion, which also guarantee the stability of the dark matter candidate. Due to the absence of total lepton number violation, the observed baryon asymmetry of the Universe is generated through the mechanism of Dirac leptogenesis (neutrinogenesis).

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Tea will be served at 3:30pm outside Room 469
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All are welcome