

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A & 2B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032,

India

Seminar Notice

Org. by

School of Physical Sciences

Title:	Was the Dark Matter Cold All Along ?
Speaker:	Anirban Das, Tata Institute of Fundamental Research, Mumbai
Date:	May 30, 2019 (Thursday)
Time:	4:00 p.m.
Venue:	Physics Seminar Room (C-406), 3rd Floor, Centenary Building, IACS
Abstract:	We need to conjecture a cold or nonrelativistic form of dark matter in the universe which dominates the matter energy density, to explain diverse lines of cosmological and astrophysical observations. Several particle physics models predict that dark matter was relativistic and collisional at early time, and became cold only after a phase transition. In this talk, I shall describe and explain the nontrivial features of the cosmology of such a class of dark matter, termed Ballistic Dark Matter (BDM). Dark matter inherits large peculiar velocity from the primordial relativistic fluid, hence the name ballistic, that cause oscillations and enhancement of the matter power spectrum relative to the Lambda CDM cosmology. I shall also discuss some constraints on BDM models from the CMB observation and large scale structure data.

All are cordially invited to attend the seminar