

**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:	Heavy dark matter particle annihilation in dwarf spheroidal galaxies: radio signals at the SKA telescope
Speaker:	Arpan Kar, HRI, Allahabad
Date:	June 4, 2019 (Tuesday)
Time:	4:00 p.m.
Venue:	Physics Seminar Room (C-406), 3rd Floor, Centenary Building, IACS
Abstract:	A weakly interacting dark matter candidate is very difficult to detect at high-energy colliders like the LHC, if its mass is close to, or higher than, a TeV. I'll show that pair-annihilation of such particles may give rise to electron/positron-pairs in dwarf spheroidal galaxies, which in turn can lead to radio synchrotron signals that are detectable at the upcoming square kilometre array (SKA) telescope within a fairly moderate observation time. I'll also talk about the consistency of the SKA limit with gamma-ray and cosmic-ray observations. Using benchmarks based on popular scenarios involving physics beyond the standard model, I'll discuss about the detectability of trans-TeV dark matter particles in SKA .

All are cordially invited to attend the seminar