S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES
Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR

Astrophysics and Cosmology

26th November'2021 3.30 PM ONLINE

SPEAKER

Dr. Somnath Dutta,
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Academia Sinica, Institute of Astronomy and Astrophysics
Taipei , Taiwan

TITLE OF THE TALK

Formation of Sun-Earth like systems

ABSTRACT

The formation and evolution of solar-like systems remain elusive to date. When dense cores undergo gravitational collapse, rotationally supported disks around young stars are believed to be formed as a consequence of angular momentum evolution. Such disk later becomes the host of planets around the protostar. The formation of such a disk turns out to be more complicated due to the presence of the magnetic field in the dense cores. In Ideal magnetohydrodynamic simulations, the disk formation is suppressed by the magnetic field. An attractive solution of the disk growth to date is the protostellar jets and outflows accompanying the earliest phase of star formation that remove angular momentum at a range of disk radii and allow material to transfer to the central core.

In this talk, I shall discuss some aspects of such disk formation around low-mass stars, the timescale of jet launching and speculation on the likelihood of planet formation.

HOST FACULTY

Dr. Ramkrishna Das
Associate Professor & Seminar Coordinator, Astrophysics & Cosmology

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