

Seminar

Institute for Plasma Research

Title : Plasma Instruments and Wave Detection in Space

Speaker : Dr. Vipin K. Yadav

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Date : 12th April 2017 (Wednesday)

Time : 11.30 AM

Venue : Seminar Hall, IPR

Abstract :

Plasma waves (PWs) are omnipresent and thus are a unique feature of space plasmas as they propagate energy across different space regions, transport particles in the absence of collisions and accelerate them to attain high energies. PWs transmit information about the local plasma properties from regions not accessible for in situ measurements such as the Sun and carry information about the non-linear phenomena or instabilities which excited them. A number of PWs are detected in planets other than Earth having magnetosphere such as Mercury and the outer planets (Jupiter, Saturn, Uranus, and Neptune) as well as planets having an ionosphere such as Venus and Mars which are deprived of a global magnetic field. PWs are observed in planetary satellites, comets and the interplanetary medium (IPM). The plasma in Sun itself support and sustain a number of PWs such as Alfvén waves which are observed as a flux of upward propagating low-frequency waves in the solar corona along the solar magnetic field. Alfvén waves are also believed to be present in the dusty winds of cool supergiant stars. PWs are predicted to exist in other natural plasma systems such as the interstellar medium (ISM), etc.

In this talk, I shall give an overview on the plasma instruments and waves observed in the different space regions.
