

Seminar

Institute for Plasma Research

Title : Understanding “Residual” energy transport in the H-mode Pedestal Future of Nuclear fusion via Tokamaks

Speaker : Prof. Swadesh M Mahajan

University of Texas at Austin, Texas, U.S.A.

Date : 12th December 2017 (Tuesday)

Time : 11.00 AM

Venue : Seminar Hall, IPR

Abstract :

The efficacy of an Edge Transport Barrier (ETB) at suppressing energy losses is the principal determinant to fusion energy via tokamaks. We have, for the first time, identified the likely instabilities that cause the residual unquenched losses (crucial to fusion optimization) from the “transport fingerprints” of multiple widely posited candidates. We will show that Specific drift class of instabilities, rather than magnetohydrodynamic ones, often, dominate the “residual” anomalous energy losses. By combining simple theory, state of the art computations and a detailed analysis of experiments, we construct a picture of pedestal transport that unifies and explains previously disparate experimental observations on multiple devices.
