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Seminar

Institute for Plasma Research

Title : Design and Development of the Setup for External-q Experiments in Current-less ECR Plasma of Basic Experiments in Toroidal Assembly (BETA)

Speaker: Dr. Pravesh Dhyani

Institute for Plasma Research, Gandhinagar

Date : 27th June 2022 (Monday)

Time : 10.30 AM

Venue : Online - Join the talk:

<https://lobby.ipr.res.in/PraveshDhyani>

Abstract :

To introduce rotational transform in the current-less plasma of BETA, external-q experiments have been planned. These experiments aim to study electrostatic instabilities in magnetic geometries relevant to tokamak and stellarator. For the experiments, a poloidal component of magnetic field will be introduced by installing a toroidal copper conductor at the minor axis of the vacuum vessel. Toroidal current-carrying conductor and its supporting stands have been designed for this.

Proposed experiments will be performed in electron cyclotron resonance (ECR) produced plasma. A 2.45GHz magnetron source based ECR system has been installed and tested for this purpose. A Reynolds stress probe is being developed for the measurements of the fluctuations driven flows at quasi-concentric flux surfaces during the external-q experiments.
