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Design and Development of a View Dump for Vertical ECE (VECE) diagnostics.

Abstract

The velocity distributions of high energy electrons can be diagnosed from the measurements of the electron cyclotron emissions (ECE). These are the emissions made by an accelerated electron in the presence of a magnetic field as in the case of plasma. This approach requires that the plasma is viewed vertically. To minimize the reflections from the vessel wall in the beam path, a structure called the view dump is used.

The design of the view dump is a crucial part since it has to be vacuum compatible (needs to be inside the vacuum vessel containing plasma) as well as provides high absorption of electromagnetic radiation lying in the microwave range. The project includes simulations, design, development and experimental characterization of such a view dump.

Academic Project Requirements:

- 1) **Required No. of student(s) for academic project: 01**
- 2) **Name of course with branch/discipline: Electronics and Communication**
- 3) **Academic Project duration:**
 - (a) **Total academic project duration: 10 Months**
 - (b) **Student's presence at IPR for academic project work: 4 (min) Full working days per week**

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