Seminar

Institute for Plasma Research

Title : Investigation of Different aspects of the Side-Coupled Cavities type Interaction Structures for the Slow Wave High Power Electron Beam Devices

Speaker: Dr. Prabhakar Tripathi
Indian Institute of Technology (BHU), Varanasi

Date : 11th March 2022 (Friday)

Time : 03.30 PM

Venue : Online - Join the talk:
https://meet.ipr.res.in/Dr.PrabhakarTripathi_PDFTalk

Abstract :

In the recent few years, High power microwave (HPM) systems are in demand due to their many strategic applications, for example, militaries (electronic warfare, directed-energy weapon, crowd control, imaging, high power radar, study the effect of HPM on the survivability/ vulnerability of electronic component or devices), civilian (food irradiation, material processing, cargo inspection), scientific and medical fields. The HPM systems are mainly classified into two categories; the high-peak-power or low energy with single-shot or low-repetition microwave system and the other one is the high-average-power or high-energy, with high-repetition microwave system. Though numerous research works have been reported for high-peak-power or low energy with single-shot or low-repetition microwave sources, however, still there are huge research gap exists in the high-average-power or high-energy, high-repetition microwave devices. This research opportunity motivated the author to work on high-average-power or high-energy, high-repetition microwave devices. The grid-less reltron belongs to the category of high-average power HPM source and attracted the author to explore more towards its high conversion efficiency, compact, multiple frequency operation, and long pulse operation with high pulse repetition rate (PRR). This device has excellent frequency stability and a combination of pulse duration and tunning range that is unmatched by any other tube of comparable power capability…