

## **Internal Seminar**

### **A new regime of whistler waves in the laboratory**

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A new regime of whistler wave propagation in a large laboratory unbounded uniform plasma has been identified<sup>1</sup>. The whistler wave exhibits interesting topological characteristics, has an elongated structure and exhibits feeble resonance and almost no obliqueness<sup>2,3</sup>.

This thesis focuses on experimental investigation of whistler wave perturbations in the context of Electronmagneto-hydrodynamics (EMHD) with particular emphasis on phenomena in the regime where perturbations have spatial scales ( $\lambda$ ) of the order of electron skin depth ( $d_e \sim c/\omega_{pe}$ ). While several theoretical and numerical studies have been carried out in this regime, very little experimental work has been carried out. The present work focuses on investigations in this regime by carrying out experiments on the detailed topological characteristics of the whistler waves/structures.

#### **References:**

1. Garima Joshi, G. Ravi, S. Mukherjee, *Pramana J. Phys.*, 90:79, (2018).
2. Garima Joshi, G. Ravi, S. Mukherjee, *Phys. Plasmas*, 24, 122110 (2017). (Editor's pick).
3. Garima Joshi, G. Ravi, S. Mukherjee, *Phys. Plasmas*, 26, 042106 (2019).

***Wednesday, Nov 20<sup>th</sup> 2019***

***5:00 PM (Tea/Coffee at 4:30 PM)***

***Seminar Hall, TIFR-H***