Physical Research Laboratory
Ahmedabad

Space & Atmospheric Sciences Division

Division Seminar

Title: **"MSTIDs and their role in the mid and low latitude coupling processes"**

Speaker: **Dr. Sivakandan M**

Date: **25 March 2019**

Venue: **Ground Floor Lecture Hall**

Time: **16:00 hrs**

Highlight of the talk:

In contrary to the equatorial ionospheric irregularities which are generated by the Generalised Rayleigh-Tailor instability (GRT), it is believed that nighttime medium scale traveling ionospheric disturbances (MSTIDs) are generated in the mid-latitude ionosphere by Perkins instability. The unique feature of the nighttime MSTID is that its phase fronts are aligned in the north-west to south-east direction and propagates towards the equator. The equatorward propagation of the MSITDs is primarily controlled by the existence of the crest region of equatorial ionization anomaly (EIA) around ~15-20o Geomagnetic latitude. Furthermore, there are studies that suggest that the MSITDs can act as a seed perturbation for the equatorial plasma bubbles (EPB), particularly during solar minimum period when their ingression into low latitudes is deep in latitudes. There are studies that also brought out the interaction of MSTID and equatorial plasma bubbles (EPB). Therefore, MSTIDs are not only capable of providing seed perturbations but can directly interact with the EPBs. However, the background conditions that will determine the degree of interactions are not understood comprehensively till date. In the present talk, some insights about the MSTIDs characteristics and possible background condition for the low latitude propagation will be discussed.

All interested are welcome.