Physical Research Laboratory
Ahmedabad

Space & Atmospheric Sciences Division

Division Seminar

Title: **"Investigation of Thermosphere-Ionosphere system using Optical and Radio techniques"**

Speaker: **Mr. Sovan Saha**

Date: **19 August 2019**

Venue: **Ground Floor Lecture Hall**

Time: **16:00 hrs**

Highlight of the talk:

The low-latitude thermosphere-ionosphere system is influenced by the neutral and electrodynamic processes. These processes are affected by electrodynamics, neutral winds, plasma densities, etc., which show day-to-day, seasonal, solar activity dependency. Investigations of the upper atmospheric behaviour can be carried out by various remote sensing methods. These include measurement of the optical emissions that originate from the neutral species at different altitudes and the return echoes from the ionosphere of the radio waves transmitted through the radio wave sounding techniques. Conventionally, OI 630.0 nm nocturnal emissions which originate from an altitude of around 250 km are used as a tracer for the investigation of the upper atmospheric behaviour. We use large field of view measurements using a High Throughput Imaging Echelle Spectrograph (HiTIES) for these studies. HiTIES has been commissioned at PRL's Optical Aeronomy Observatory in Gurushikhar, Mt. Abu (24.5° N, 72.7° E, 16° N Geomagnetic). Several interesting features in night time airglow intensity variations have been observed. Some of the initial results obtained from the analysis of these emissions and their plausible relation with the equatorial processes will be discussed.

All interested are welcome.