

**Physical Research Laboratory  
Ahmedabad**

***Space & Atmospheric Sciences Division***

***Special Division Seminar***

**Title: “Day to day variability of gravity waves and their relationship with nighttime phenomena”**

**Speaker: Mr. Subir Mandal**

**Date: 15 November 2019**

**Venue: Ground Floor Lecture Hall**

**Time: 16:00 hrs**

**Highlight of the talk:**

Gravity waves (GWs) are omnipresent in the upper atmosphere and they redistribute the energy in the medium as they propagate away from their source region. They are known to play important roles in modifying various upper atmospheric phenomena. Conventionally, optical methods are used to study GWs. Recently, we have devised a methodology to derive daytime GW characteristics using radio technique (Digisonde). Earlier works have shown that the daytime upper atmosphere prepares the conditions conducive or otherwise for nighttime irregularities to occur. Several days of data have been analysed to understand the upper atmospheric behaviour over equatorial latitudes. We have attempted to address the issue of occurrence of nighttime plasma irregularities (i.e., ESF, Equatorial Spread F) with regard to daytime GW characteristics over equatorial location. A broad overview of the various factors in the daytime that affect ESF occurrence will be given and some new results with respect to GW characteristics on days with and without the occurrence of post sunset ESF will be presented in this seminar.

**All interested are welcome.**