

SPACE BORNE & TERRESTRIAL REMOTE SENSING (RP 4.1.5)

Remote Sensing: Basics of remote sensing, EM spectrum, Atmospheric window, Type of remote sensing- Active and Passive, Ground based and Space based, Optical and Microwave, Applications, Indian Remote Sensing Satellite Systems.

Remote Sensing Principles: Spatial, spectral, Radiometric and temporal resolution, Satellite sensors, swath, FOV and Error sources, Image analysis- Raster image and Vector image, Elements of image interpretation.

Remote Sensing of Atmosphere and Earth Resources: Spectral response of water as a function of wavelength, Sea surface temperature/ wind speed/ color monitor, Precipitation, Clouds and aerosol, Water vapor, Convective system, Trace gases; Remote of earth resources.

Sensors and Systems : **Active systems:** SAR, SLAR, Altimeter, Scatterometer, Atmospheric radar, **Passive systems:** Radiometer, Charge coupled devices (CCD) ,**Terrestrial systems:** [Weather radar](#), [Clear air radar](#), [Lidar](#), Radio Acoustic Sounding System, **Satellite systems:** TRMM, AURA-MLS, Megha Tropiques

GPS based remote sensing: Ground based and radio occultation techniques