

Excitations of Earth's Normal Modes after large Volcanic eruptions

Presented by Satyamesh Tiwari

Supervisor – Dr Mala S Bagiya

Large volcanic eruptions have been observed to produce variety of perturbations in Earth's atmosphere among which, oscillating acoustic wave causes the resonant oscillations of the atmosphere-ionosphere systems. This happens when the acoustic waves going up in the atmosphere gets trapped and bounces back to ground. The interaction between the solid Earth and the atmosphere occurs through acoustic resonant coupling, occurring at specific frequencies when the solid Earth mode aligns with the fundamental modes of the atmosphere. This alignment enables the excitation of ground surface oscillations which can sustain for a long time even after the volcanic activity is ceased. In this talk, I will discuss about the Solid Earth and atmosphere coupling by Lithospheric and Ionospheric observations after few large volcanic eruptions.