## **Studies of Solar Flares Induced Perturbation in D Region Ionosphere**

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After the extended the long solar minimum, the solar cycle 24 has initiated with good number of strong solar flares. These solar flares effects have been seen on narrowband VLF signals propagating in earth ionosphere wave guide. During the solar flares X-ray flux enhancement causes perturbation on upper boundary of Earth-Ionosphere waveguide i.e., lower ionosphere through which the VLF signal propagates. This causes the perturbation on Phase and Amplitude of VLF signal. The magnitude of VLF perturbation caused by a solar flare is thus a potentially good measure of the effects of the flare on the lower ionosphere. We have observed solar flare induced perturbation in D region ionosphere during January and February 2010. The VLF narrowband observations recorded at three Indian sites has been used to understand the D region ionospheric dynamics in conjunction with GOES satellite and ground geomagnetic data from low latitudes in India. Further detailed effects and modeling will be discussed and presented during the workshop.