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Measurement of pre-seismic atmospheric anomalies in Hokkaido, Japan

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Fujiwara et al. (Geophys. Res. Lett., 2004) verified the appearance of anomalies in the atmosphere before earthquakes through observation of anomalous transmission of VHF electromagnetic (EM) waves beyond line-of-sight. The cross-correlation between the earthquake occurrences and the anomalies shows that the appearance of anomalies was significantly enhanced within 5 days before earthquakes. In order to verify the spatial correlation, thus, we developed VHF interferometric system to find the coming direction of scattered electromagnetic waves (Yamamoto et al., Proc. Jpn. Acad., 2009). Since we have installed this system in Hokkaido, Japan, we would like to show the preliminary results in this presentation.

Keywords: Earthquake, Ionospheric Anomaly, Atmospheric Anomaly, EM Wave Propagation, Interferometric Measurement