

## Meridional thermospheric winds observed by Fabry-Perot interferometers and ionosondes at low latitudes

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It is important to know the thermospheric wind system in order to understand ionosphere-thermosphere coupling system. Observation of thermospheric wind is traditionally done by Fabry-Perot interferometers (FPIs). It is not easy to observe thermospheric wind every night, because FPI observation depends on weather condition and moon phase, and not many FPI observation has been conducted. Instead of FPI observation, some researchers have estimated meridional wind velocities using data from a pair of ionosondes near geomagnetic conjugate points, assuming that the meridional wind is uniform between the two ionosonde stations (transequatorial wind). However, the comparison between meridional wind velocities estimated by ionosondes and those directly measured by FPIs has not been reported. In this presentation, we show the comparison of meridional winds estimated by ionosondes and those observed by FPIs for the first time. We analyzed data of ionosondes and FPIs installed at Chiang Mai [98.9E, 13.0Nlat] in Thailand and Kototabang [100.3E, -10.0Nlat] in Indonesia. They are located approximately at the geomagnetic conjugate points. Although the estimated and observed wind velocities were generally in good agreement on many nights, we found that they were not in good agreement on some nights. In these nights, the assumption that the meridional wind is uniform between the two ionosonde stations would not be valid. We also investigated seasonal dependence of the correlation between the estimated and observed meridional winds. They were in good agreement from February to April while they were not in good agreement from May to July. This result suggests that meridional wind have more convergence / divergence components from May to July.

Keywords: thermospheric wind, ionosonde conjugate observation, Fabry-Perot Interferometer