

## Development of Ionospheric Electron density tomography using linear regularization.

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The physical mechanisms of pre-seismic ionospheric anomalies are still not well-known. In order to clarify the physical mechanism, it is essential to understand the three-dimensional distribution of ionospheric electrons. [Hirooka et al., 2012] developed and operated ionospheric tomography by using GEONET data. However, their method has a drawback that the estimation of the ionospheric structure becomes unstable because the SN ratio falls during the night. Therefore, it is necessary to continuously reconstruct the three-dimensional structure of the ionospheric electron density. We tried to develop ionospheric tomography which can be applied in the nighttime. In this study, we developed a 3D tomography using the Phillips-Tikhonov regularization. In order to evaluate the performance, we used simulated data with International Reference Ionosphere (IRI) model for reconstruction. The results are not so bad and will be shown in the presentation.