

## Improvement of high-latitude electric field model in GAIA

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GAIA (Ground-to-Topside Model of Atmosphere and Ionosphere for Aeronomy) solves physical and chemical dynamics of the whole atmosphere region from the troposphere to the exosphere under interactions with the ionosphere. Input from the polar region dramatically varies depending on the solar wind and magnetospheric conditions, which affects thermosphere and ionosphere globally. Total electron contents around Japan show discrepancy between observation and GAIA simulation without the polar input variation especially disturbed term. We are conducting improvement of the polar electric field input to GAIA referring to an empirical Weimer model which varies as a function of solar wind parameters. We will report the development and initial results in this presentation.

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