

Comparison of ionospheric parameters between the global MHD simulation and the KRM method in each substorm phase (II)

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The effect of the ionospheric conductivity on Magnetosphere-Ionospheric coupling process in each phase of substorms is investigated comparing the results of global MHD simulation with those of the KRM method. The peaks of the electric potential derived from the global simulation and the KRM method coincide with each other only in the dusk sector. We calculate the electric potential using the field-aligned current derived from the global simulation and a conductivity model of Ahn et al.[1983]. It is found that the global structure of the electric potential associated with the two cell convection grows with development of substorms.