

Ionospheric convection simulation for the conjugate ionospheres with the finite magnetic field-aligned conductivity

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Simulations of the electric potential distributions for the conjugate ionospheres in the northern and southern hemispheres with the finite field-aligned conductivity have been performed. Hardy empiric model of the ionosphere conductivity has been used. Potential drops across the polar caps have season dependence according to the calculations. The potential drop in the winter hemisphere is more then in the summer hemisphere. The potential drops difference is equal to 10-20 kV depending on the magnetic activity.

Hardy D.A., Gussenhoven M.S. Raistrick R., McNeil W.J. Statistical and functional representation of the pattern of auroral energy flux, number flux, and conductivity, J.G.R., v.92, No.A11, 1987, pp.12,275-12,294.