

The ionospheric conductance model based on ground magnetic disturbance

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In an effort to construct an ionospheric conductance model the empirical relationships between the ionospheric conductance measurement from the Chatanika radar and the magnetic disturbance simultaneously recorded at College magnetic station are established over the entire auroral region. Combining these relationships with the empirical formulas proposed by Robinson *et al.* (JGR, 92, 2565, 1987), it is further possible to estimate the energy spectrum of precipitating electrons. Interesting features noted in this study are quite consistent with the statistical results by Hardy *et al.* (JGR, 90, 4229, 1985; JGR, 92, 12275, 1987) and Fuller-Rowell and Evans (JGR, 92, 7606, 1987) in terms of magnitudes and spatial distribution.