



Topside high latitude ionospheric structures

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The radiation belts region can play a major role in the near Earth environment. Despite the fact that the analysis of properties of Earth electromagnetic environment has had a long history, the topics related to deeply understanding waves particles interaction in radiation belts region and in connecting ionospheric region are still not sufficiently understood. Particularly it seems that description of energy transfer in the ionosphere-magnetosphere coupling processes, can be a major task to solve in near future.

By help the wave and plasma diagnostics located on board of past low orbiting satellites operated Demeter satellite and new RELEC mission the description of selected physical processes occurred in auroral region of topside ionosphere are reported. The aim of this presentation is to show the response of ionospheric plasma to the energetic particle fluxes coming from radiation belts region and describe the complex coupling processes of radiation belts region and low altitude near Earth radiation environment. The presented analysis can be very useful for constricting new operation models incorporated in Space Weather program.