

## **Preliminary study of a response of middle atmosphere composition on solar proton event in July 2000**

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One-dimensional time-dependent photochemical model has been used for an investigation of chemical changes in middle atmosphere during the SPE. Ionization, dissociation and electronic excitation of molecular atmospheric components have been calculated according to available solar proton spectrum. The production of odd-nitrogen and odd-hydrogen molecules and their influence on ozone content has been studied using the model. It is obtained good agreement of calculated concentrations for odd-nitrogen with experimental data. However we have not obtained sufficient depletion of ozone content on altitudes of middle atmosphere during the SPE. Possible mechanisms of ozone depletion related with electronic and vibrational kinetics of main and minor components have been discussed.