

**POLAR OZONE VARIABILITY DURING JANUARY 2005**

A Damiani<sup>1</sup>, M Storini<sup>2</sup>, C Rafanelli<sup>1</sup>

<sup>1</sup>*Istituto di Scienze dell'Atmosfera e del Clima - CNR, Roma, Italy*, <sup>2</sup>*Istituto di Fisica dello Spazio Interplanetario - INAF, Roma, Italy*

The enhanced Space Weather storms of January 2005 induced ozone variability in the polar and sub-polar regions. Solar particles, mainly protons, produced ionization at different altitudes. The ion chemistry leded catalytic cycles of ozone destruction, principally through NOx and HOx increase, and variation in the chemistry of the minor atmospheric components. We will comment on the changes of ozone concentration at different quotes and latitudes by retrieved ozone profiles coming from satellite. Moreover we will focuses on the differences between the summer and winter hemispheres where the odd nitrogen and hydrogen produced have different effects on the ozone layer because of dissimilar solar illumination. An evaluation of the short-time effectiveness on the ozone profile of enhanced proton flux in January 17 and January 20 will be conducted.