

Search for the Ozone Variability related to SEP events during the current solar cycle

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Data from GOES (Geostationary Operational Environmental Satellite) series were used to identify intense SEP (Solar Energetic Particle) events occurred during the on-going solar activity cycle. We retrieved ozone profiles coming from different satellite sensors (Solar Occultation instrument, Limb emission, etc.) and investigated the mesospheric and stratospheric response to SEPs in the Northern and Southern high latitudes. In particular, the chemistry of the minor atmospheric components is analyzed to evaluate the associated odd nitrogen (NO_x) and hydrogen (HO_x) production, able to lead short (hours) and medium (days) term ozone variations. Moreover, we will focus on the inter-hemispheric differences in the ozone layer, related to the different solar illumination.