The Earth Mesosphere and Ionosphere Dynamics During the Great Geomagnetic Storm of October 9, 1999

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The MORTI (Mesopause Oxygen Rotational Temperature Imager) data, are analyzed to study the Earth Mesosphere response on the magnetic storm occurred on October 9, 1999 and associated with coronal hole. Mesosphere and ionosphere disturbances were observed on the period of October 9 (17:00 UT) to 12 (07:00 UT), sum Ki for these days were 22, 34, 32, 37 respectively. A significant enhancement (21%) in the molecular oxygen nightglow intensity and an ionosphere electron density depletion associated with changes in the N2/O ratio are observed after beginning the magnetic storm. The COPHASE method was applied to obtain IGW's (Internal Gravity Waves) characteristics from MORTI data.