## Latitudinal Distribution of 630.0 nm Airglow Intensity Using FORMOSAT-2/ISUAL

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Limb observations by Imager of Sprites and Upper Atmospheric Lightnings (ISUAL), onboard FOMOSAT-2 satellite provides high resolution latitudinal and altitudinal maps of  $O(^{1}D)$  and OH(9-3) components of 630.0 nm airglow. Preliminary analysis of the ISUAL data revealed regions of enhanced intensity in the latitudinal scans. The enhancements appear as single peak or double peak structures. Though in majority of the cases the peaks appear near the equatorial region, there are instances when they are seen at mid-latitudes as well. Also, in some cases, the peaks are seen only for the OH(9-3) layer, with no corresponding enhancement of the  $O(^{1}D)$  layer. On the basis of pure photochemistry, the  $O(^{1}D)$  intensity should be proportional to the electron density. However, there are several other factors that could influence the intensity, such as neutral winds, ionospheric disturbances, tidal effects, particle precipitation etc. Detailed simulations are carried out to understand the role of such processes in the observed latitudinal distribution of the 630.0 nm intensity.

Keywords: Airglow; FORMOSAT-2/ISUAL; O(<sup>1</sup>D) and OH emissions; 630.0 nm limb imaging