**Response of OI630.0 and OI557.7 nm dayglow emissions measured by ICON/MIGHTI to a moderate geomagnetic storm**

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Observations from the Michelson Interferometer for Global High-Resolution Thermospheric Imaging onboard the Ionospheric Connection Explorer spacecraft are used to study the response of OI630.0 and OI557.7 dayglow to a moderate geomagnetic storm on 27 August 2021. The storm reaches a minimum Dst index of −82 nT, significantly impacting the dayglow within the latitudinal range of approximately 20°N–42°N, where the dayglow observations are of good quality. During the geomagnetic storm, the OI630.0 dayglow intensity slightly increases, while the peak volume emission rate (VER) decreases, and the peak height rises noticeably. The F-layer intensity, peak VER, and the entire-layer intensity of OI557.7 dayglow decrease significantly. The rise in peak height is not noticeable for the OI557.7 dayglow. The VERs of the dayglow emissions at both these wavelengths respond differently to the geomagnetic storm at different altitudes. The OI630.0 dayglow layer as a whole extends upward and rises in altitude. For dayglow averaged above 35°N, the OI630.0 dayglow VER increases above approximately 225 km but decreases below this altitude. The largest increase occurs near 300 km, reaching approximately 82.8%, while the largest decrease occurs around 160 km, reaching about −22.0%. The OI630.0 dayglow intensity increases by approximately 6.3%, the peak VER decreases by about −8.0%, and the peak height rises by approximately 16.3 km, corresponding to a 7.8% increase. The F-layer intensity, peak VER, and the entire-layer intensity of OI557.7 dayglow decrease by approximately −27.5%, −32.4% and −17.4%, respectively. The response of the dayglow also depends on longitude and is accompanied by a southward meridional wind.