Geophysical Research Abstracts
Vol. 21, EGU2019-272-2, 2019
EGU General Assembly 2019

DSCOVR total ozone column measurements and their diurnal variability at Antarctic

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Abstract:
The diurnal variations of atmospheric ozone at Antarctic area has been examined in this paper using the measurements from Deep Space Climate Observatory (DSCOVR) Earth Polychromatic Imaging Camera (EPIC) which was designed to measure the atmosphere from the L1 Lagrange point with a multispectral imager featuring 10 spectral channels ranging from the UV to the near-IR. The total ozone column product of EPIC shows that the diurnal variation has different performance on different orientations of the Antarctic based on a certain relationship with temperature, wind speed and direction. We not only analyzed the daily variation of single sites, but also studied the changes in the total amount of ozone in the high time frequency of the entire region. It shows that EPIC has great potential for monitoring and understanding of the ozone in the Antarctic region.

Keywords: DSCOVR; EPIC; Ozone; Antarctic