

ISS-IMAP/EUVIで観測された電離圏上部He<sup>+</sup>イオンの南北非対称性の経度変化

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Longitudinal variation of hemispheric asymmetry of topside He<sup>+</sup> content observed by ISS-IMAP/EUVI

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Longitudinal variation of hemispheric asymmetry of topside He<sup>+</sup> content in the solstice seasons of 2013 are studied with data of He<sup>+</sup> resonant scattering obtained by Extreme Ultra Violet Imager (EUVI) onboard the International Space Station (ISS). EUVI provides a data set of the column density of He<sup>+</sup> above the ISS orbit altitude. The data set provides a unique opportunity to study He<sup>+</sup> distribution in the topside ionosphere from a different perspective of past studies using in-situ measurement data. During the solstice seasons, an enhancement of He<sup>+</sup> column density in the winter hemisphere is observed. The magnitude of this hemispheric asymmetry shows a longitudinal variability. Around the June solstice, the hemispheric asymmetry was greater in the longitude sector where the geomagnetic declination angle is negative and smaller in the longitude sector where the geomagnetic declination angle is positive. Around the December solstice, on the other hand, this longitudinal variation of the asymmetry magnitude had opposite tendency. The hemispheric asymmetry of the effective neutral wind well explains this behavior of He<sup>+</sup>. The field-aligned component of neutral wind in the F-region is varied in longitude under the presence of finite geomagnetic declination angle and large zonal wind. These results suggest that the transport of ions in the topside ionosphere is strongly affected by the *F*-region neutral wind.