

R005-09

Zoom meeting C : 11/1 AM2 (10:45-12:30)

11:30-11:45

台風・ハリケーン・サイクロンによって励起された中間圏擾乱の ISS-IMAP/VISI による観測

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Tropical cyclone-generated mesospheric disturbances revealed by the airglow observation of ISS-IMAP/VISI

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Mesospheric disturbances associated with tropical cyclones (TC) have been investigated using the airglow observation from International Space Station (ISS). It has been widely accepted that the vertical coupling from the Troposphere to the Mesosphere and the Lower Thermosphere (MLT) region is crucial to elucidate the variations of the upper atmosphere. Especially, extreme atmospheric events in the Troposphere, such as TC and tornados, are regarded as the source of the sporadic disturbances in the MLT region. There has been a plenty of researches on the MLT disturbances associated with the Tropospheric events using the ground-based imagers, GNSS-receiver arrays, and radars. Spaceborne imaging observation is idealistic to elucidate the MLT disturbances caused by the Tropospheric events because it is not blocked by the clouds in the Troposphere. Visible-light and infrared spectrum imager (VISI) of ISS-Ionosphere, Mesosphere, upper Atmosphere, and Plasmasphere mapping (ISS-IMAP) mission detected the Mesospheric airglow from the molecular oxygen in 762nm of wavelength, and the Ionospheric airglow from the atomic oxygen in 630nm of wavelength. In its three years observation, the number of TC that ISS-IMAP/VISI made the conjugate observation was 171. It was found that more than 20% of TC was associated with the mesospheric disturbances that seems to be generated by TC. The duration of these disturbances was one or two days in spite of the lifetime of TC is longer than a week. Relation between activity of TC and the Mesospheric disturbances associated with the TC will be discussed in the presentation.