

Observations of gravity waves in the airglow during the night of 21 August 2017 solar total eclipse over Brazil

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A coordinate campaign of observations was conducted in the northeast of Brazil during 21 August 2017 solar total eclipse. During this campaign neutral and ionic parameters of the mesosphere-thermosphere-ionosphere system were measured using airglow imagers, Fabry-Perot interferometer, ionosondes, coherent back-scatter radar, meteor radars and magnetometers. The main goal of this campaign was investigated secondary effect of the total solar eclipse in the dynamics and structure of the atmosphere over Brazil. From the airglow images, periodic gravity waves were observed in the mesopause (OH layer) and thermosphere (OI6300 layer). The waves had propagation directions and horizontal parameters compatible with waves that could be generated by the eclipse from the north part of the South America continent. Salient discussion will be present in this paper.

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