

EGU22-9390

<https://doi.org/10.5194/egusphere-egu22-9390>

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



## Planetary wave activity observed in atmosphere-ionosphere system over low latitudes

**Ashish Jadhav**<sup>1</sup>, Gurubaran Subramanian<sup>1</sup>, and Parashram Patil<sup>2</sup>

<sup>1</sup>Indian Institute of Geomagnetism, Navi Mumbai, India (jadhavashishp19@gmail.com)

<sup>2</sup>MF radar facility, Indian Institute of geomagnetism, Kolhapur, India

The coupled response of the atmosphere-ionosphere system to planetary waves propagating from below has been observed through MF and Meteor radars at different longitudes along with the ground geomagnetic data from 23 stations of Northern (NH) and Southern Hemisphere (SH) during northern winter months of January, 2015 and 2017. The focus is on delineating the quasi-2-day (Q2DW) and quasi-6-day wave signatures in the mesosphere-lower thermosphere (MLT) and in ionospheric Sq currents besides deciphering their effects on the overall neutral dynamics at low latitudes. Analysis extended to longitudinally separated stations confirms the penetration of these planetary waves into the ionosphere either directly or indirectly through interaction with other wave modes in the MLT region.