

The Daytime and Nighttime Mapped Whistler Plasmopause Observed by DEMETER

*ChaoYen Chen^{1,2}, Tiger J. Y. Liu^{1,2,3}

1. Institute of Space Science, National Central University, Taiwan, 2. Center for Astronautical Physics and Engineering, National Central University, Taiwan, 3. Center for Space and Remote Sensing Research, National Central University, Taiwan

This paper investigates the plasmopause positions in the ionosphere by measurement of the whistler count probed by DEMETER (Detection of Electro-Magnetic Emissions Transmitted from Earthquake Regions) satellite in the daytime at 1030 LT (local time) and the nighttime at 2230 LT during 2005-2010. The whistler finds the plasmopause position which can be clearly allocated in both daytime and nighttime. We examine the nighttime/daytime plasmopause in various longitudes, solar activities, seasons, and geomagnetic actives. Results show that the daytime plasmopause appears in the equatorward side of the nighttime one. Both the daytime and nighttime plasmopause are sensitive to solar activity, which move equatorward from the low to high solar activity in the study period. The seasonal variation of the plasmopause are rather random and insignificant. During magnetic disturbed condition, the plasmopause tend to move equatorward.

Keywords: Plasmopause position, Whistler, DEMETER satellite