



POSSIBLE INFLUENCE OF LUNAR SEMIDIURNAL TIDE IN EQUATORIAL SPREAD-F

[1] Paulino, Igo; [2] Paulino, Ana Roberta; [3] Cueva, Ricardo Yvan; [1] Buriti, Ricardo Arlen; [1] Medeiros, Amauri F.; [4] Wrasse, Cristiano M.; [4] Takahashi, Hisao

[1] Universidade Federal de Campina Grande, Campina Grande, Brazil
[2] Universidade Estadual da Paraíba, Campina Grande, Brazil
[3] Universidade Estadual do Maranhão, São Luís, Brazil
[4] Instituto Nacional de Pesquisas Espaciais, São José dos Campos, Brazil

ABSTRACT

An intensive study on the start time of equatorial plasma bubble, observed by an all sky imager deployed at São João do Cariri (7.4°S, 36.5°W), and equatorial spread-F, observed by a coherent back scatter deployed at São Luis (2.5°S, 44.3°W) was conducted from 2001 to 2009. Oscillation of 14.5 days was clearly observed in three month (September 2003, October 2005 and January 2008) in the airglow images with amplitudes of 45-60 min. Furthermore, using the data from the radar range time integration (RTI) maps, several events were observed with dominant period of 14.5 days in September 2001, November 2002, January-February 2003, October-December 2005 and November 2008. In such case, the amplitude of the oscillation were from 3 min up to 60 min. This oscillation could be related to the semidiurnal lunar tide, which appear as an important contributor to the time of occurrence of equatorial spread-F.