Analysis of March 29 2006 eclipse on the E and F1 region at Ilorin

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The ionograms recorded at Ilorin, Nigeria (Longitude 4.57^{o}E, Latitude 8.53^{o}N, Dip 4.1^{o}S), an equatorial station in West Africa, on the March 29 2006 eclipse day were analysed. The eclipse effects on the morphology of the ionosphere were observed. The data obtained on the eclipse day were used along with those of the control day to determine photochemical rates in the E and F1 regions of the ionosphere.

Planetary waves in the equatorial electrojet obtained by wavelet wnalysis of magnetometer data

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The approximate effect of the equatorial electrojet (EEJ) magnetic field over the H-component of the Earth's magnetic field can be investigated analyzing the diurnal variation of this magnetic component obtained by magnetometers (ΔH). To study the planetary wave oscillations in the EEJ we have select magnetically quiet days ensuring that the variations in the ΔH were caused mainly by the electrojet and Sq current system. We have calculated (ΔHEEJ), the difference of the H-component variations at the two close by magnetic stations to remove external source like the Sq current system effects and magenetospheric currents. Once São Luís Space Observatory (2.33° S, 44.2° W, DIP: -0.5) is located on a region of EEJ influence and the Magnetic Observatory of Eusébio (3.89° S, 38.4° W, DIP: -12.5) is located outside the electrojet region, the resultant difference (ΔHEEJ =ΔHSLZ - ΔHEUS) is supposed to contain only the EEJ influence. We performed a wavelet analysis using the Morlet wavelet-mother and obtained the periodicities vs. time. Studies using magnetometer data in other magnetic stations have confirmed the presence of 2-, 5-, 10- and 16-days electro-dynamical signatures possibly due to the interaction between planetary waves with the ionospheric dynamo region. In this paper, we analyze the agreement between the planetary waves occurrences in Brazilian region and results obtained in earlier papers, related to other regions of the world.

The March 29, 2006 solar eclipse as observed at Ibadan, Nigeria

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During the solar eclipse of March 29, (Julian day 88) 2006, an unstable stratification of the air mass was observed at Ibadan (7.380 N, 3.930E) Nigeria. The radiation and temperature sensors and other