Title : A study of different blanketing Es layers during the solar cycle 23

Session: S5: Low and mid latitude Aeronomy and Electrodynamics

Preferred type of presentation: Poster

Abstract:
We investigate the behavior of blanketing frequency (fbEs) measured by a digital ionosonde over São Luís, Brazil (2.33°S, 44.2°W, dip: -4.5°), associated with different types of Es, according to the magnetic disturbance level and, in relation to the phase of strong magnetic storms that occured during the solar cycle 23. Our preliminary results showed that there are expressive changes in the fbEs characterized by occurrence of peaks that exceeds the ambient background values, mainly during the recovery phase of strong magnetic storms. These peaks are associated to the presence of blanketing Es types, which are not the common Es at the dip equator but replaced the Esq, a non-blanketing layer observed in ionograms due the plasma irregularities in the equatorial electrojet electric field. Therefore, we suppose the wind shear mechanism is taking place at latitudes close to the dip equator, where it is not supposed to operate efficiently. The results are discussed in terms of the statistics of the abnormal enhancement taking into account the magnetic disturbance level and phase of the magnetic storm, when applicable.

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