

Title : Vertical ExB drift during pre-reversal peak hours at magnetically conjugate stations in Brazil (COPEX Campaign) using Digisonde data

Session: S5: Low and mid latitude Aeronomy and Electrodynamics

Preferred type of presentation: Poster

Abstract:

The time variation of the F layer height at specific frequencies ( $dh(f)/dt$ ) can be used to estimate the vertical plasma velocity of the F layer. This apparent velocity has contributions from the electromagnetic ExB drift, from the meridional neutral wind and from the height variations due to recombination, but close to the magnetic equator and near sunset, when the F layer is high enough for the recombination process to be considered negligible, the electromagnetic ExB becomes the most important component. This paper will present the temporal variations of the vertical drift approximated with the above technique and also the vertical plasma velocity derived using a new technique based on the numerical solution of the continuity equation, both obtained for the quietest days from the COPEX campaign (October to December of 2002, high solar activity) near sunset hours. We will compare the vertical ExB drift simultaneously in two magnetically conjugated stations and at a magnetic equator station, and analyze the differences and their possible causes in terms of meridional winds.

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