Abstract Submitted
for the 4CF10 Meeting of
The American Physical Society

Dynamics of Ionospheric Plasma Depletions Measured by Airglow Emissions NARAYAN CHAPAGAIN, MICHAEL TAYLOR, Utah State University — The earth's ionosphere most often shows the occurrence of highly irregular plasma density and velocity fluctuations with a large range of scale sizes and amplitudes. This night time ionospheric irregularities in the equatorial F-region is commonly referred to as equatorial spread F or plasma depletions (bubbles). In this presentation, we analyze the development and dynamics of the equatorial plasma depletions observed using OI (630.0 nm) airglow emissions measured by Utah State University all-sky CCD camera from different longitude sectors near equatorial regions including Christmas Island in Pacific Ocean, Ascension Island in Atlantic Ocean, and Brazil. The results illustrate the large day-to-day variability of the plasma bubbles evolution and development from all sites. The plasma bubble structures propagated eastward during the nighttime. The development of bubbles and the magnitude of the zonal drift velocities during the post midnight period were significantly longitudinal dependence.

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Date submitted: 10 Sep 2010 Electronic form version 1.4