

Abstract Submitted  
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### Plasmasphere

**Plume-associated Storm-Enhanced Densities (SED) as Suppliers of Ionospheric Outflows to the Magnetosphere**<sup>1</sup> JAMES HORWITZ, WEN ZENG, Department of Physics, The University of Texas at Arlington, Arlington, TX 76019, JOHN FOSTER, MIT Haystack Observatory, Westford, MA 01886-1299, ROBERT STRANGWAY, Institute of Geophysics and Planetary Physics / UCLA, Los Angeles, CA 90095-1567, MARK ADRIAN, THOMAS MOORE, NASA/Goddard Space Flight Center, Heliophysics Science Division, Greenbelt, MD 20771-1000 — Elevated ionospheric density regions which evidently have been convected from the subauroral plasmaspheric region toward the noon sector cleft ionosphere have been reported. Here, the possibility that these so-called Storm Enhanced Density (SED) regions could serve as ionospheric plasma source populations for cleft ion fountain outflows is explored. The UT Arlington Dynamic Fluid Kinetic (DyFK) code is employed to simulate the entry of a high-density “plasmasphere-like” flux tube entering the cleft region and subjected to an episode of wave-driven transverse ion heating. Initial comparisons of these modeling results with SED-outflow-plasmasphere plume observations will also be presented.

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