

**ALTAIR, IRIS, and in-situ and chemical release
measurements of "sunset electrodynamics" of the equatorial
ionosphere during the NASA EVEX campaign at Kwajalein**

Erhan Kudeki¹, Steven J. Franke¹, Robert F. Pfaff², Miguel F. Larsen³,
Douglass E. Rowland², and Jeffrey H. Klenzing²

¹ University of Illinois at Urbana-Champaign, USA

² NASA Goddard Space Flight Center, MD, USA

³ Clemson University, SC, USA

Two sounding rockets gathering DC and AC electric field and plasma density measurements were launched into the equatorial ionosphere during an active E-region sunset event being monitored by the ALTAIR (VHF and UHF) and IRIS (VHF) radar systems. TMA and lithium vapor releases by the rockets climbing to 180 and 330 km apogees also enabled the measurements of E- and lower F-region neutral winds during this pre-reversal enhancement period followed by spread-F activity. E-region turbulence during sunset and F-region turbulence that developed subsequently were monitored by ALTAIR and IRIS (a 50 MHz two-element fixed-beam radar interferometer) systems using a combination of coherent and incoherent scatter modes. First results of this equatorial vortex experiment (EVEX) including the radar data collected over a two month period leading up to the EVEX launches will be presented in this talk.