**Abstract**

Homospherical electronistic analyzers are a common choice for particle instrumentation suites in satellite and sounding rocket programs. We use an extension of this design to measure the thermal particle population in the dayside cusp region with in situ particle and wave instrumentation while simultaneously observing event with incoherent scatter radar.

**Conclusions**

- **SERSIO** sees structured regions of high $T_i$ (1.5 eV) which we interpret as the beginning of SCIFER-like BBELF TIA events.
- Quantification of in situ measurements of the thermal particle population requires careful measurement of source populations and potentials around spacecraft.
- As part of this continuing effort, we are developing a thermal plasma source and calibration facility.