

## **SESSION: SWARM, ePOP**

Thu, Feb 21, 13:45-14:00

### **Polarization Measurements of Proton Whistlers and other Natural Low-Frequency Radio Emissions Observed by ePOP- RRI**

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We present the polarization characteristics of proton whistlers and other natural emissions observed by the Radio Receiver Instrument (RRI) on the Enhanced Polar Outflow Probe (ePOP), which is on the CASSIOPE spacecraft. RRI consists of crossed orthogonal dipole antennas operated as a polarimeter.

Proton whistlers, which cannot be observed on the ground and are even extremely difficult to observe in space, were observed in a number of ePOP passes from May 19, 2018, to August 19, 2018. Proton whistlers have numerous dispersion signatures, and we were able to categorize these signatures, map them to their source locations, and compare them to models.

The other natural emissions observed were the lightning-generated electron whistlers, including ducted, non-ducted, nose whistlers, chorus waves, hiss, lower hybrid waves in addition to proton whistlers. Some quasi-periodic emissions were also observed.