

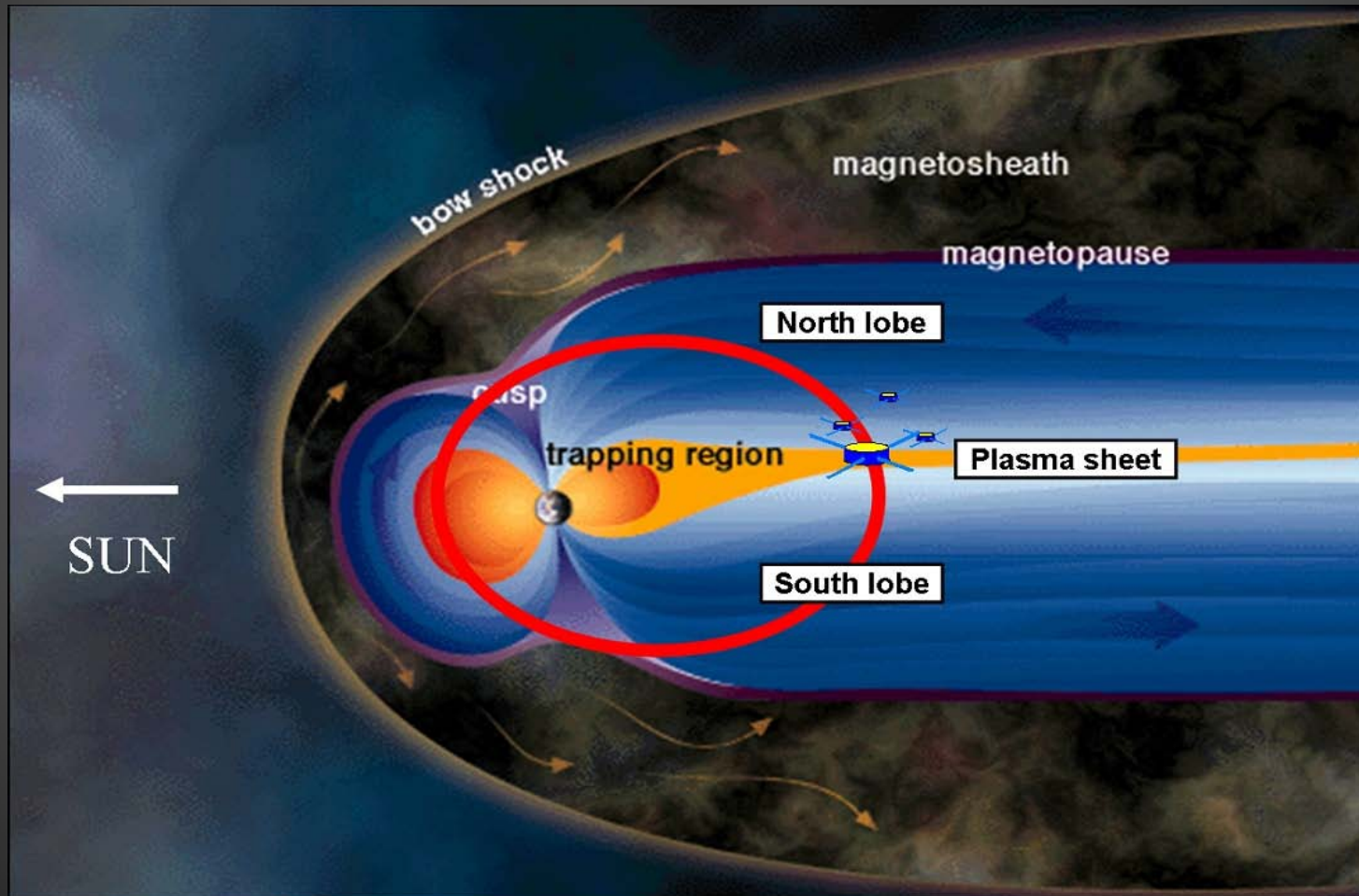
Satellite Observations of Band-Limited Pc 1 Waves Associated with Streaming H⁺ and O⁺ ions in Earth's High- Latitude Magnetosphere

Student: C.R.G. Kahlstorf

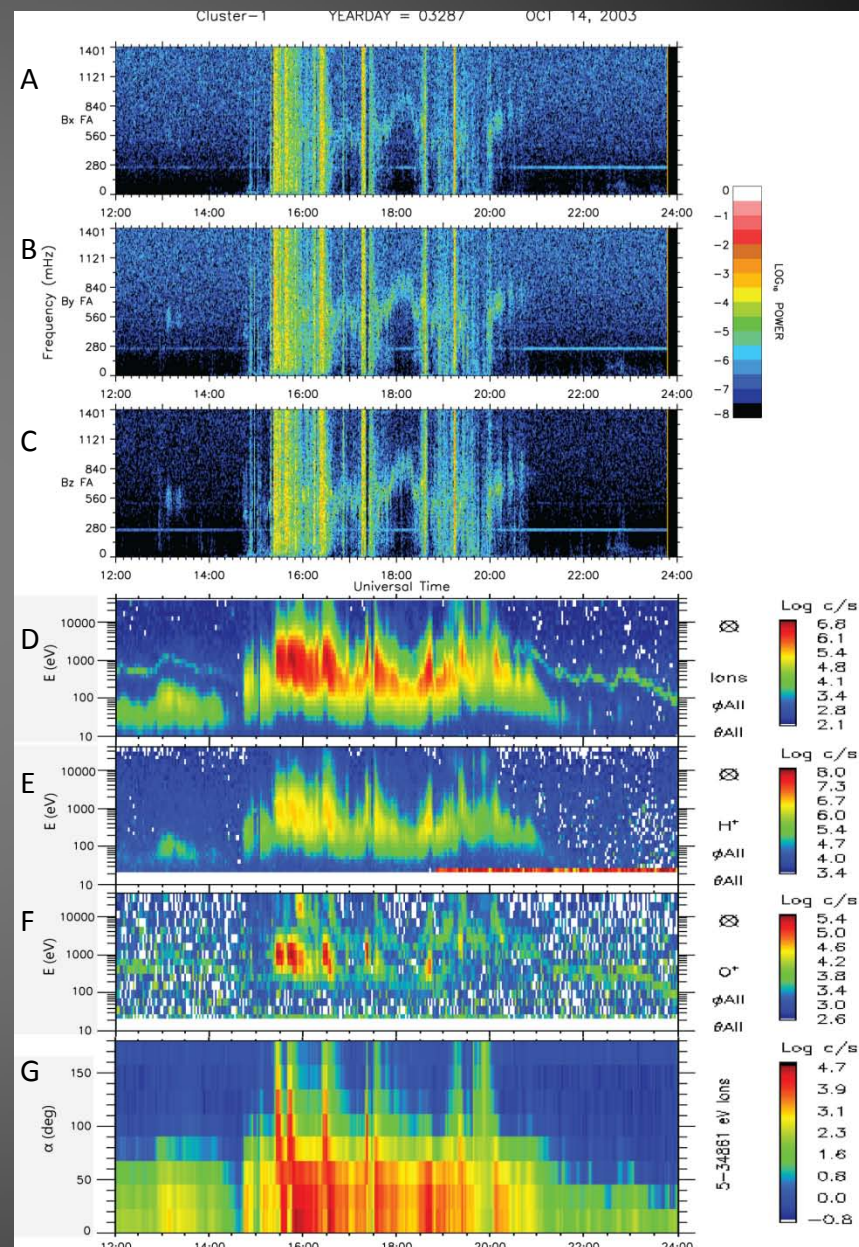
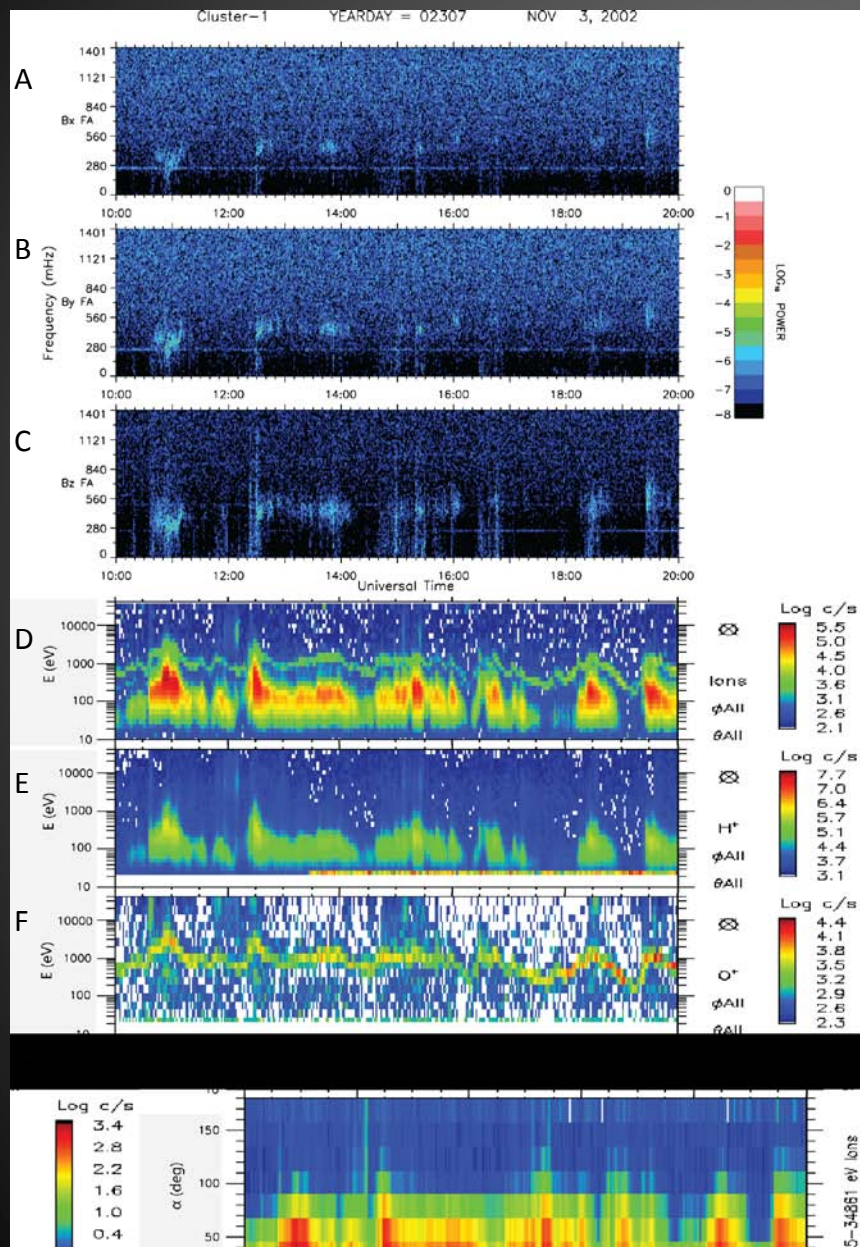
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The Magnetosphere & The Cluster Mission

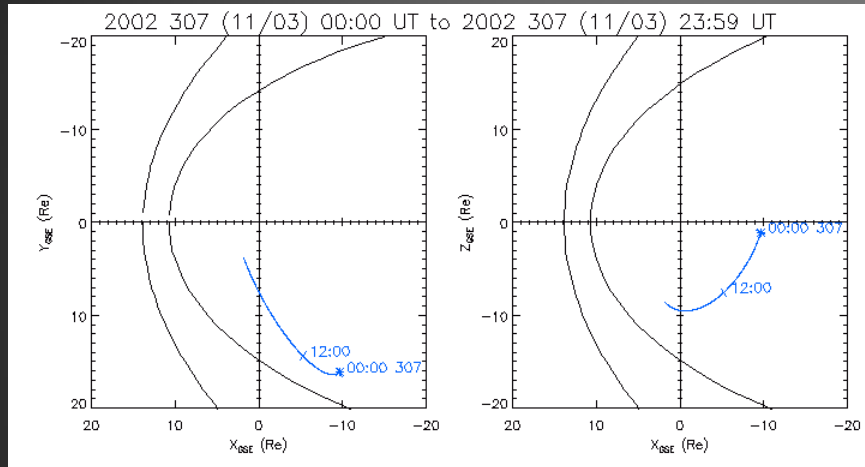


Magnetic Wave Events

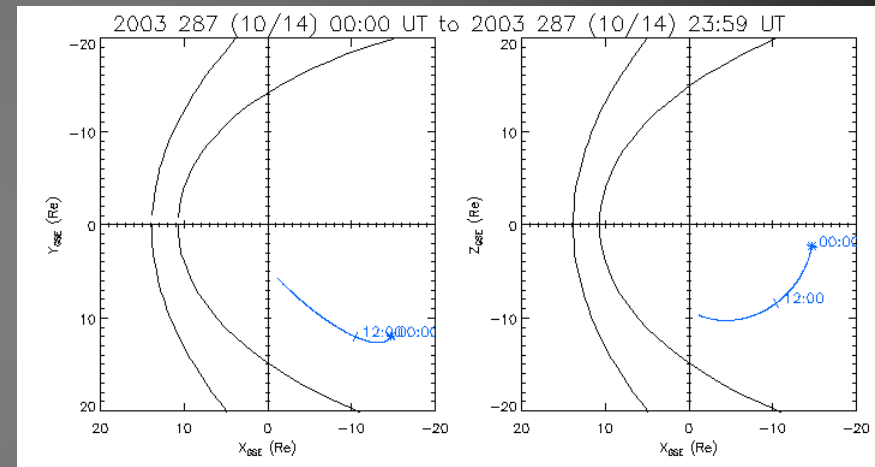


Wave Events' Orbits

November 3, 2002



October 14, 2003

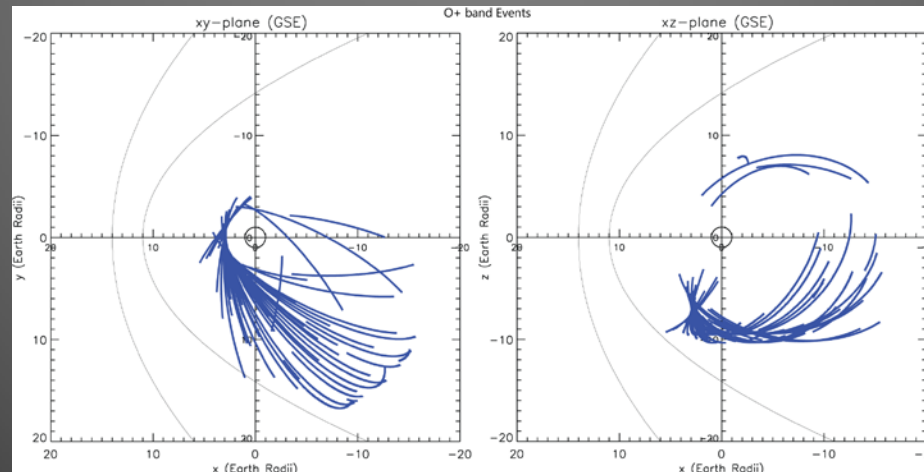
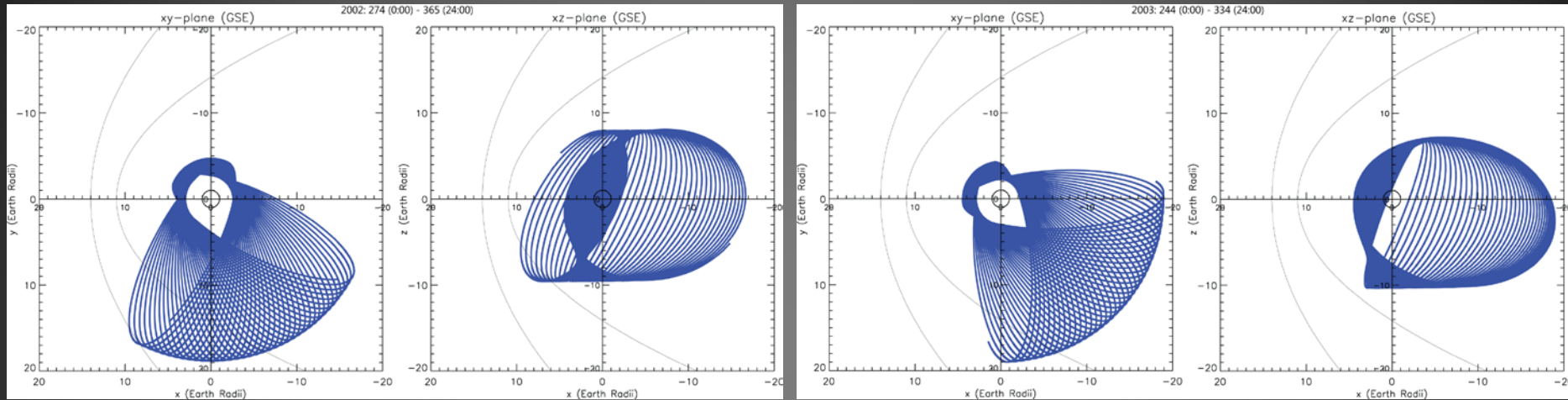


Both Events were observed while flanking the southern polar cap on the dusk side.

Additional Investigation For O⁺ band Events

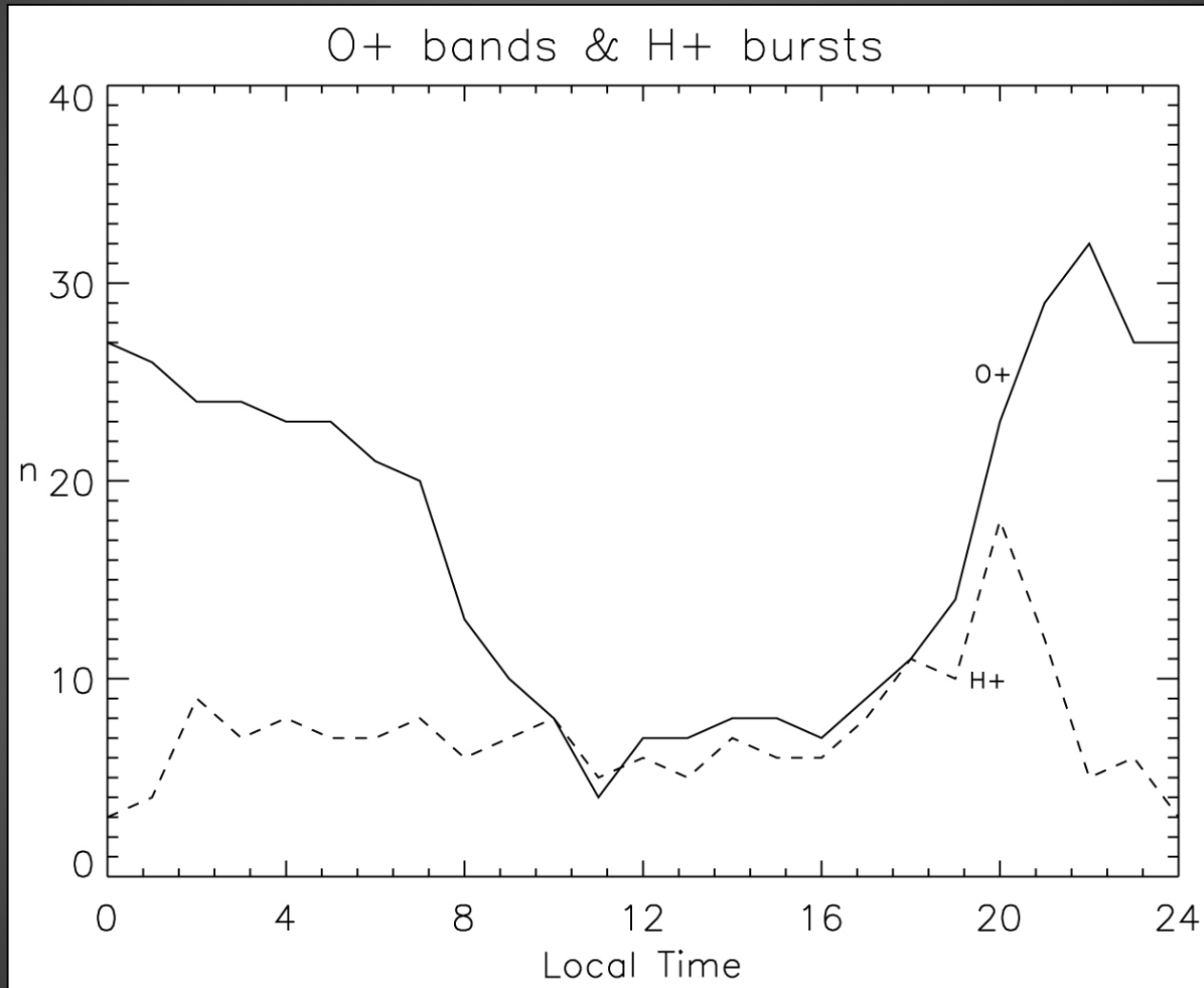
2002

2003



The O⁺ band with H⁺ bursts is not an uncommon configuration!

Histogram



Summary/ Future Work

- Wave Mechanism
- Two ion species with the same velocity:
 - $\mathbf{v} = \mathbf{E} \times \mathbf{B}$, and extreme field line curvature
- Supplementary Months of Data for 2002 & 2003
- Correlations between particle data and magnetometer data

Thank You!

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