CAMMICE, CEPPAD, EFI, HYDRA, MFE, PIXIE,
PWI, SEPS,TIDE, TIMAS, UVI, VIS

Status of the Spacecraft

- The Polar spacecraft and instruments are healthy. Only the plasma wave instrument has suffered a major fault; it now operates only during eclipse.
- Polar has initiated semi-annual attitude maneuvers to extend orbit normal operations for auroral imaging and optimize fuel usage.

  March 18, 2002 – half flip to ecliptic normal
  Fall 2002 – half flip to orbit normal
  Spring 2003 – full flip to orbit normal for southern winter auroral viewing
  Fall 2003 – half flip to ecliptic normal (permanent)

- Despun platform control and auroral viewing is limited to an ~4.5 hour segment of each 17 hour orbit.

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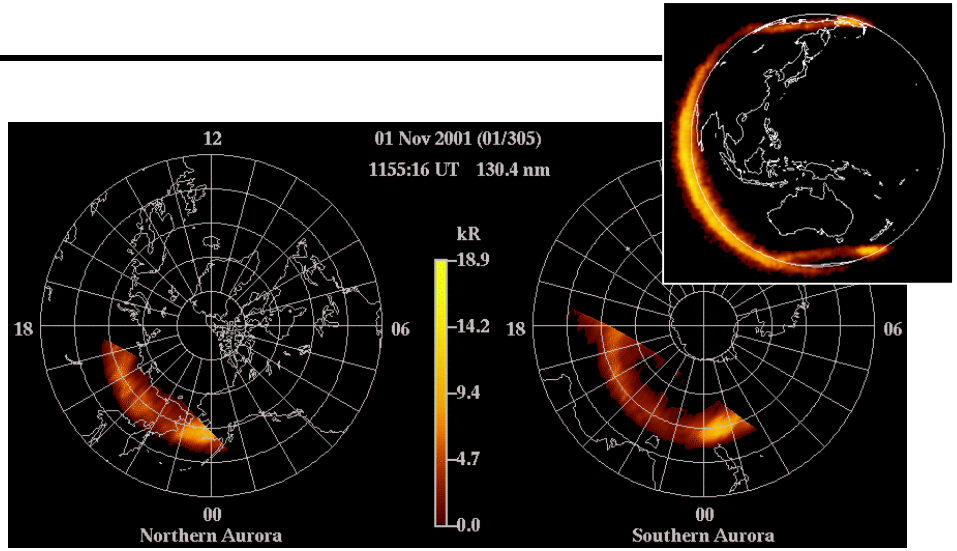
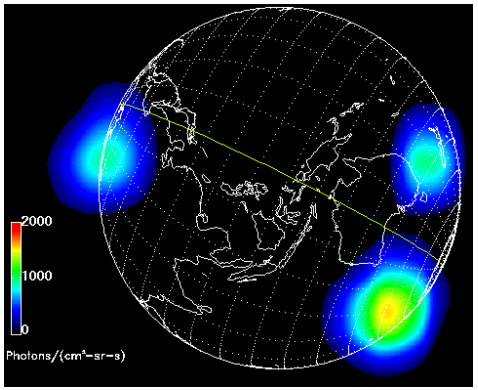
Status of the Science

- Polar's auroral science has progressed to studies of the conjugate aurora. Some initial findings:
  - –Onset brightening first seen in the southern hemisphere with northern hemisphere onset detected ~1 min. later
  - –Expansive phase brighter in southern hemisphere but located ~45min earlier in local time in the north
- A JGR special section on "Causes of the Aurora", sponsored by Polar, IMAGE and FAST, closes at the end of March.



nine "great" conjugate events have been captured since October including this substorm onset on 1 Nov 2001



Conjugate aurora have also been imaged in other wavelengths.
This 24 March event was captured in the new ecliptic normal orientation.

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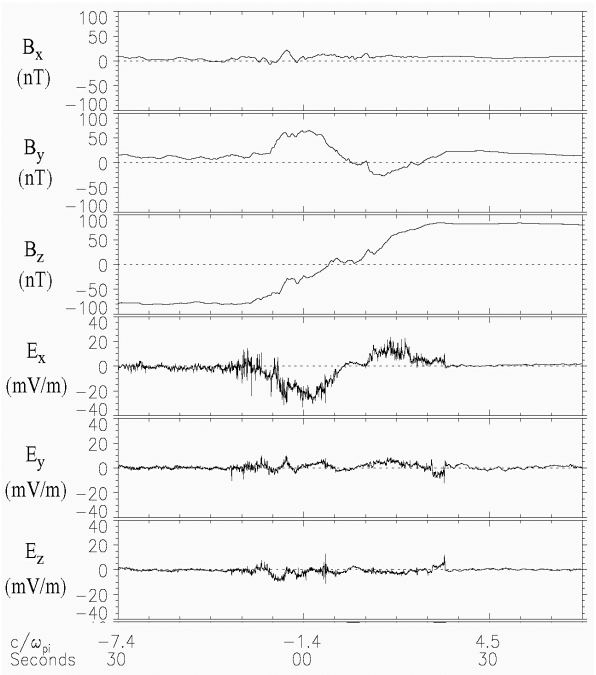
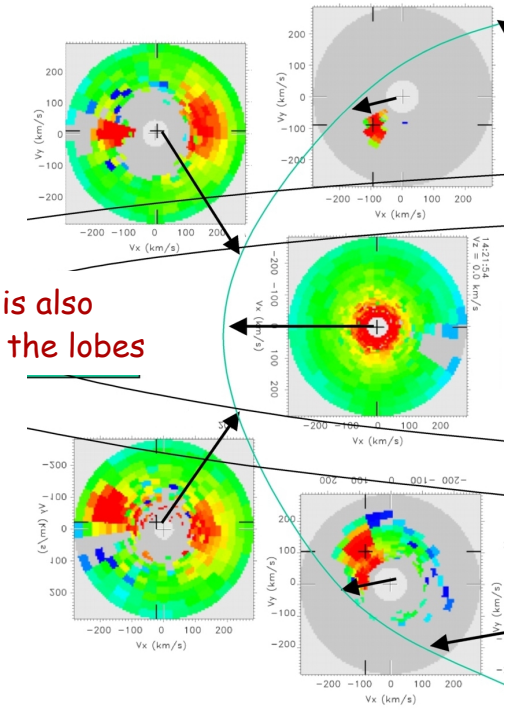
Status of the Science

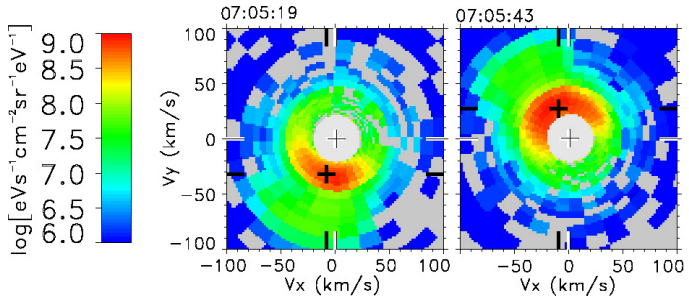
- Polar has completed a prolonged observation campaign across the nightside equatorial magnetosphere. Now conducting a similar campaign through the dayside equatorial magnetopause region.
- Polar PIs are sponsoring two special sessions at Spring AGU and will hold a collaborative workshop on the dayside magnetopause and cusp at Yosemite in Feb. 2003.



one of more than 500 subsolar magnetopause crossings. Polar's unique high-temporal and spatial resolution observations are revealing the non-MHD microphysics that dominate this sharp boundary.



ionospheric plasma counterstreaming in the closed field region is also observed streaming from the lobes into the plasmasheet.



thermal plasma, accelerated by circularly polarized waves, is regularly seen in the dayside boundary layers

Status of the Mission Operations and Data Processing Re-engineering

- Completed process of re-defining the Polar, Wind and Geotail flight operations and data systems requirements.
- Conducted feasibility studies to explore fresh approaches.
- Identified areas, responsible parties and funding for re-engineering tasks.
- Initiated re-engineering tasks.
- Notes on progress and notices of changes are communicated to Polar, Wind and Geotail science teams through a monthly email newsletter.
- The re-engineered flight operations and data system should retain all Polar, Wind and Geotail specific processing functions previously provided by ISTP.
- The re-engineered system is expected to properly support the PI teams and be affordable within the new budget guidelines.