

ILWS Ground-based Task Group

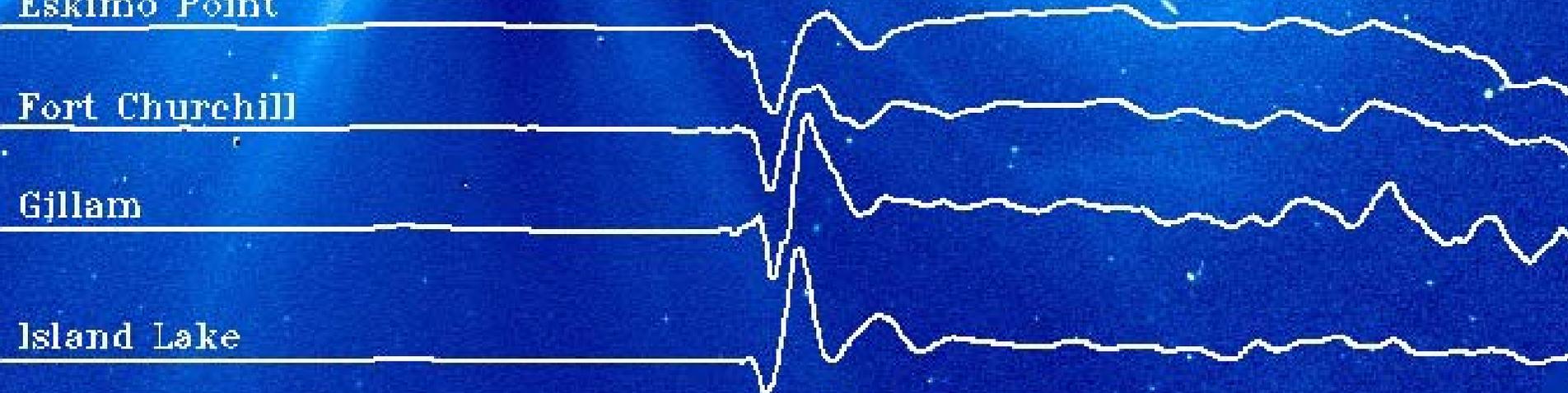


Eskimo Point

Fort Churchill

Gjllam

Island Lake



Objectives...

- Complete list of ground instrumentation with contacts.
- Advise ???? regarding ILWS science objectives.
- Lobby for “agency” funding of ground-based programs.
- Address data format issues for grid-type access (Napster)
- Champion global networks (on the SuperDARN model).
- Organizing theme – data assimilation, modelling, ICT.

Ground-based unique contributions

- Global (temporal/spatial ambiguities, context)
- Long-term
- Some mission objectives will not be met without ground-based complementary observations (MagCon, THEMIS, etc.).

Centuries

Decades

Years

Months

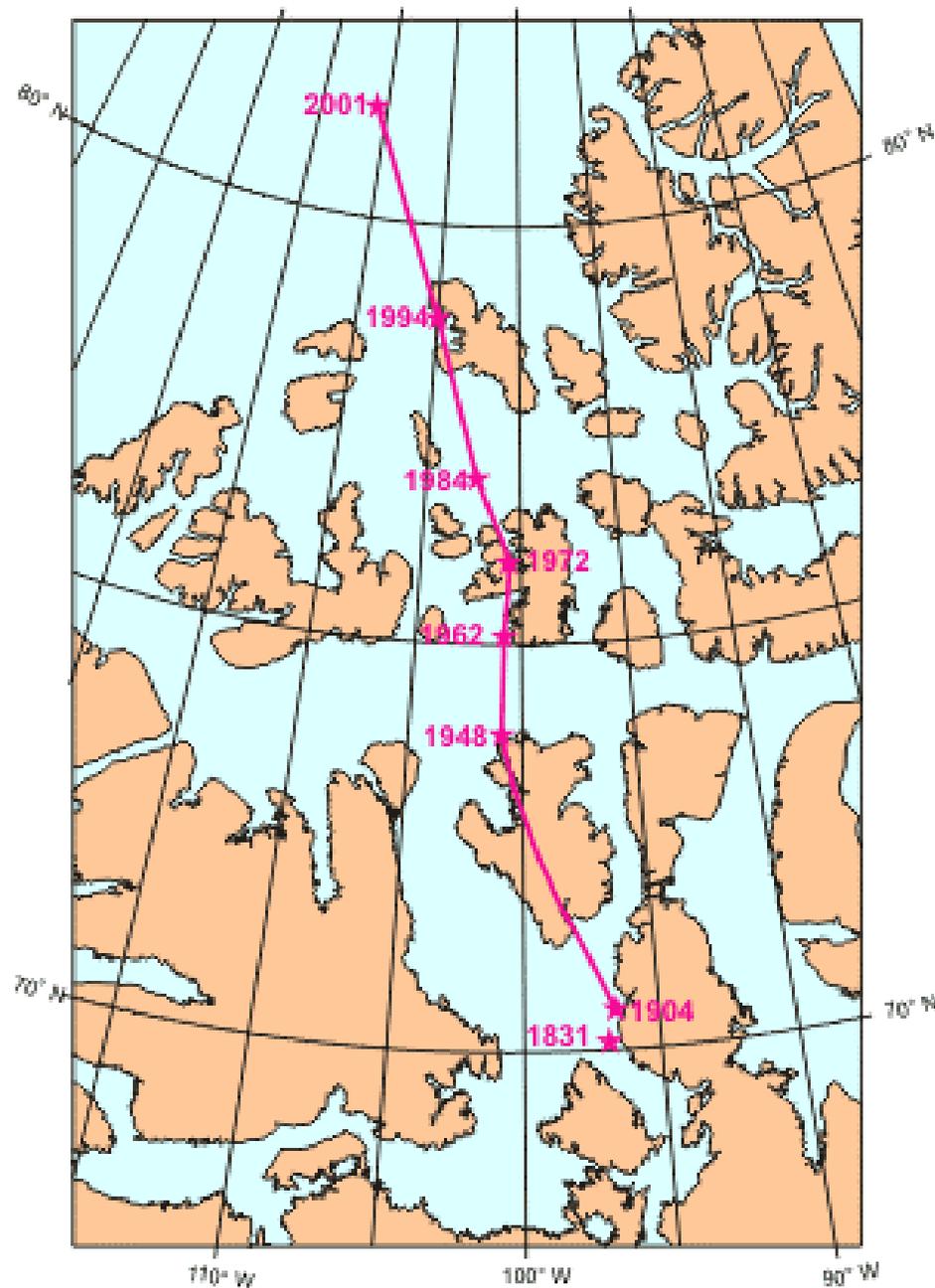
Days

Hours

Minutes

Seconds

< Seconds



Centuries

Decades

Years

Months

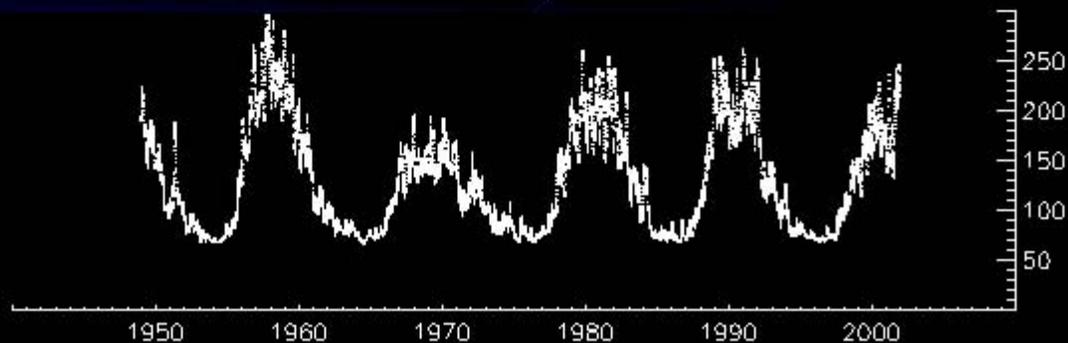
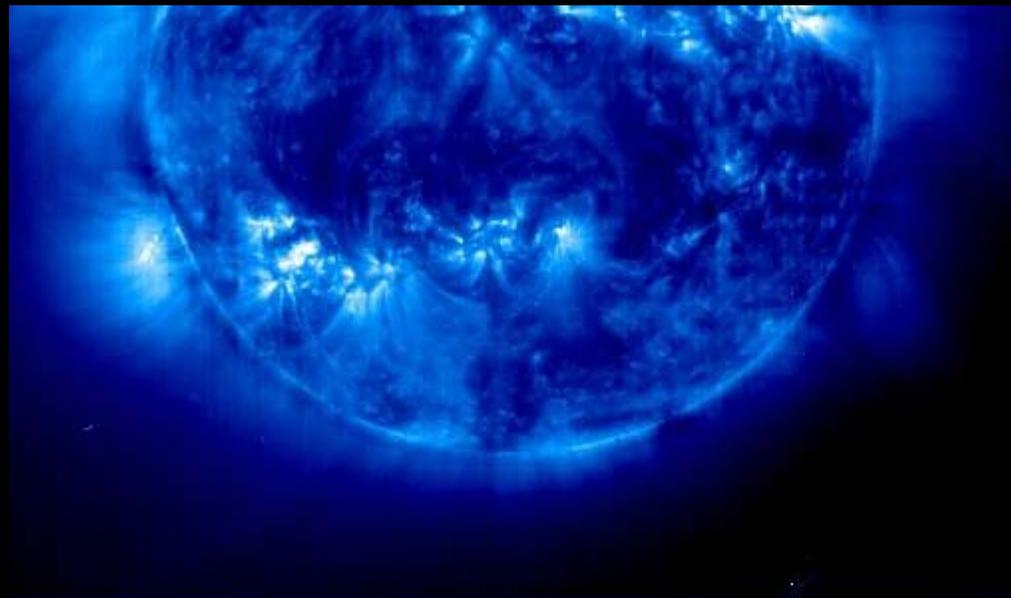
Days

Hours

Minutes

Seconds

< Seconds



Centuries

Decades

Years

Months

Days

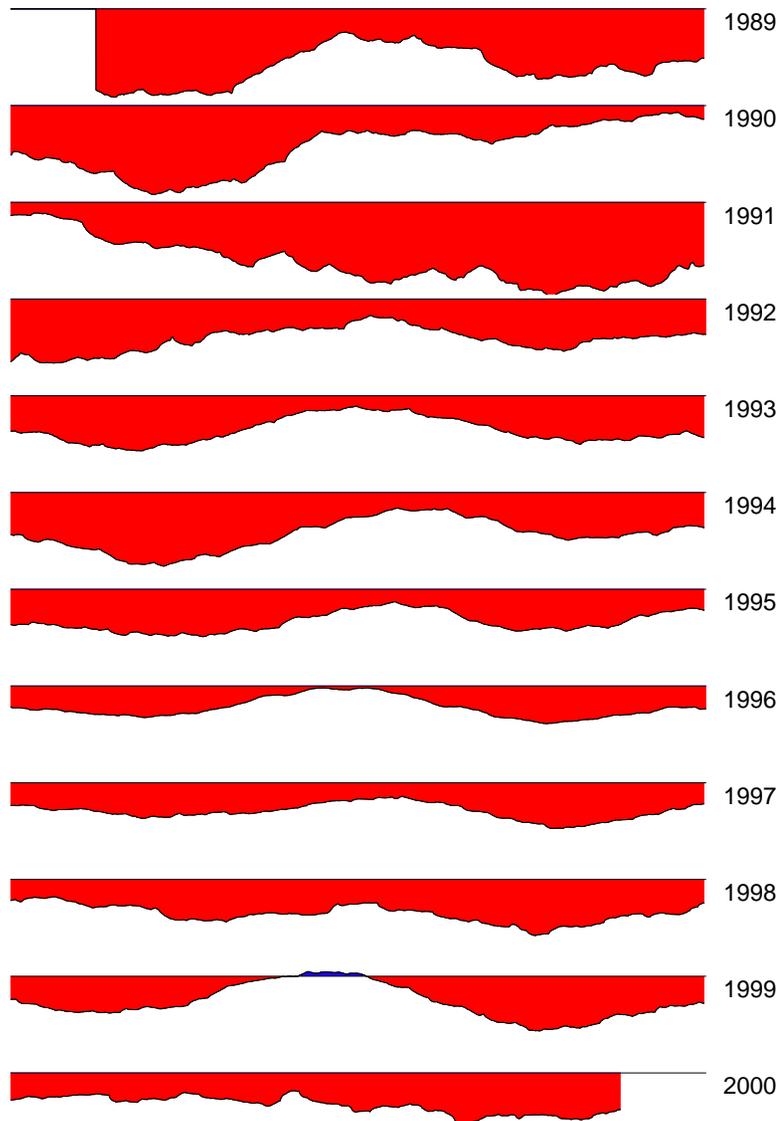
Hours

Minutes

Seconds

< Seconds

90 day running average of Dst



Year

DST 1989

Centuries

Decades

Years

Months

Days

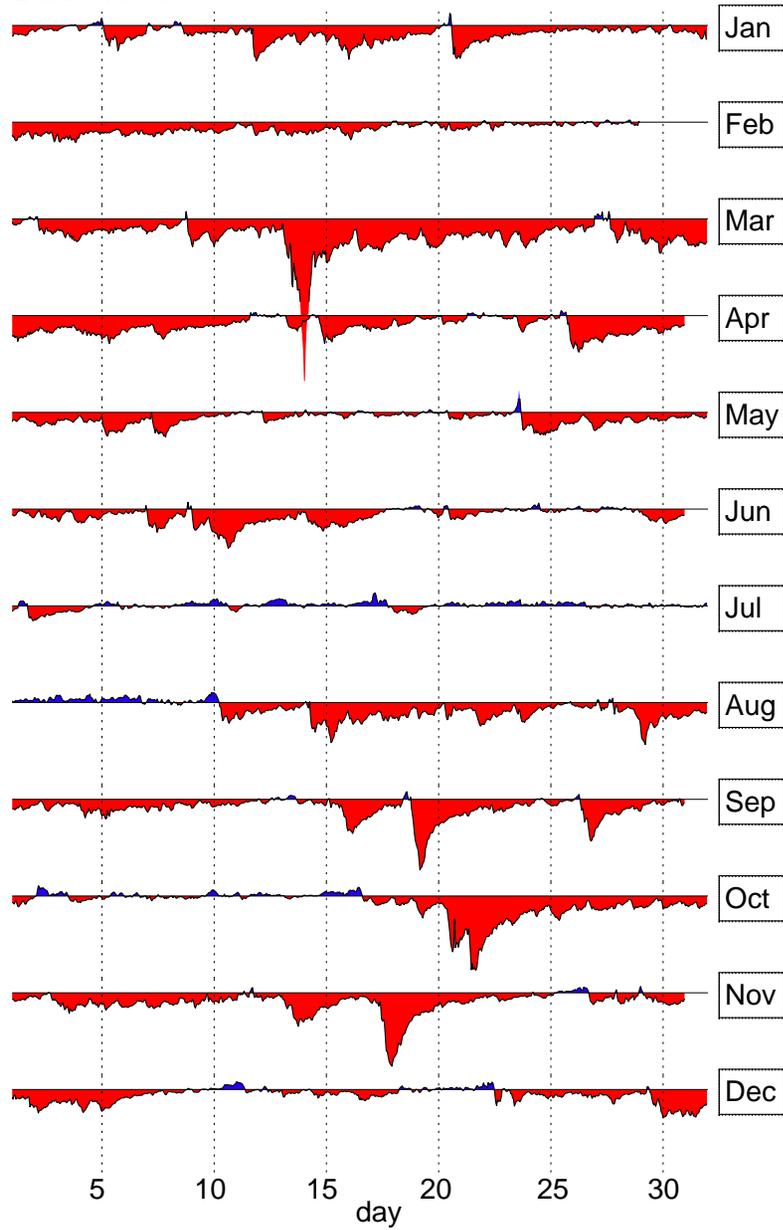
Hours

Minutes

Seconds

< Seconds

300 nT



Centuries

Decades

Years

Months

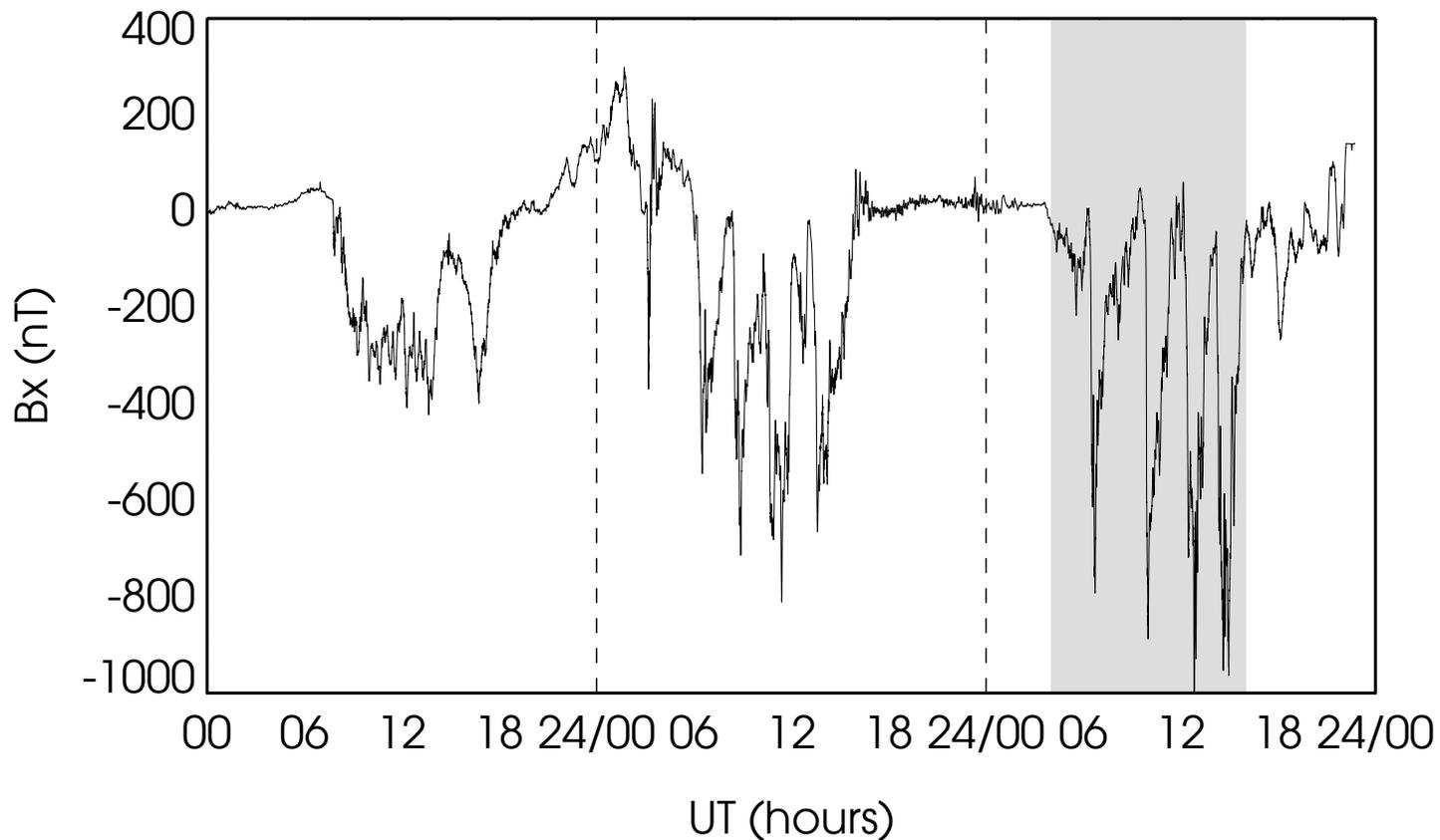
Days

Hours

Minutes

Seconds

< Seconds



Centuries

Decades

Years

Months

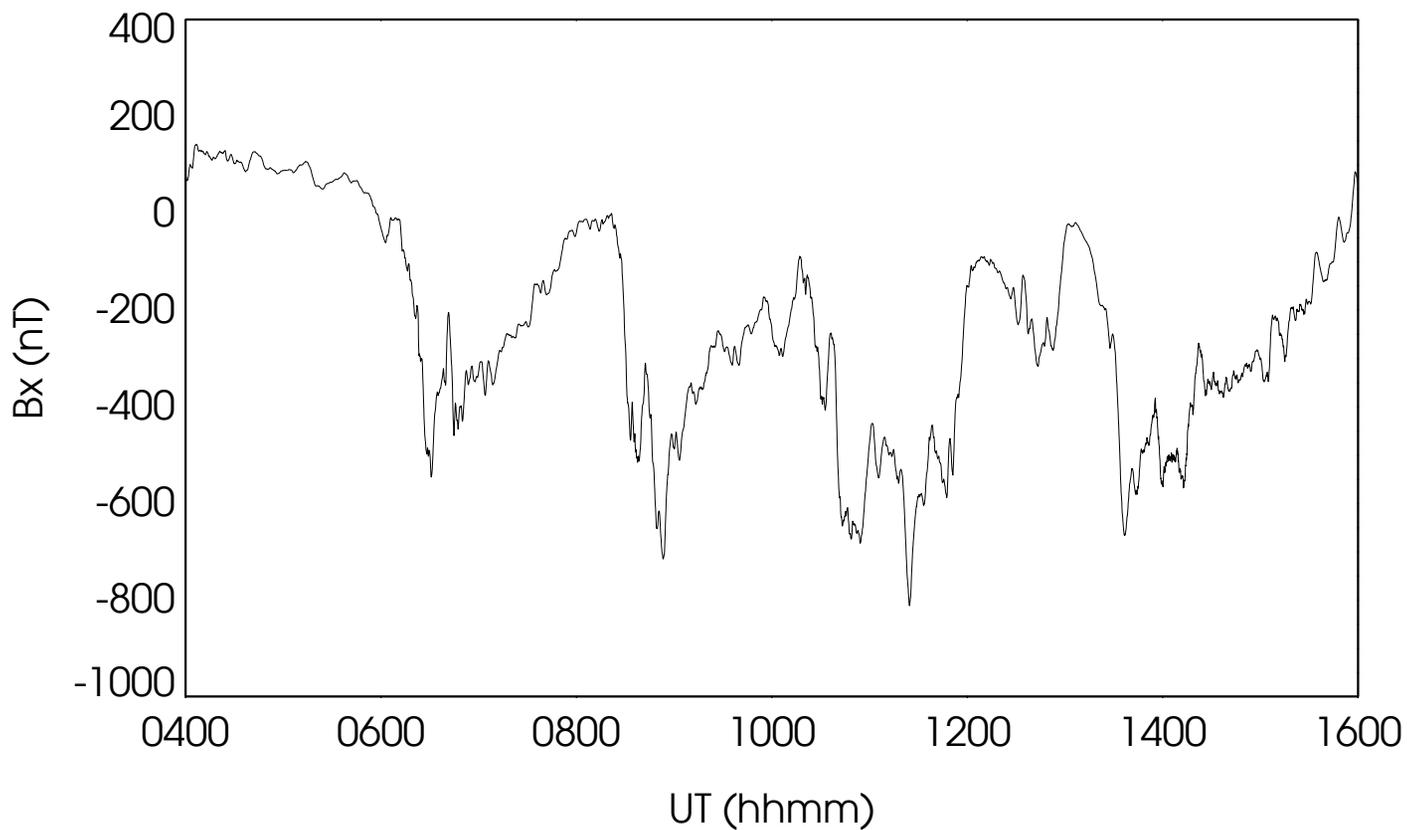
Days

Hours

Minutes

Seconds

< Seconds



Centuries

Decades

Years

Months

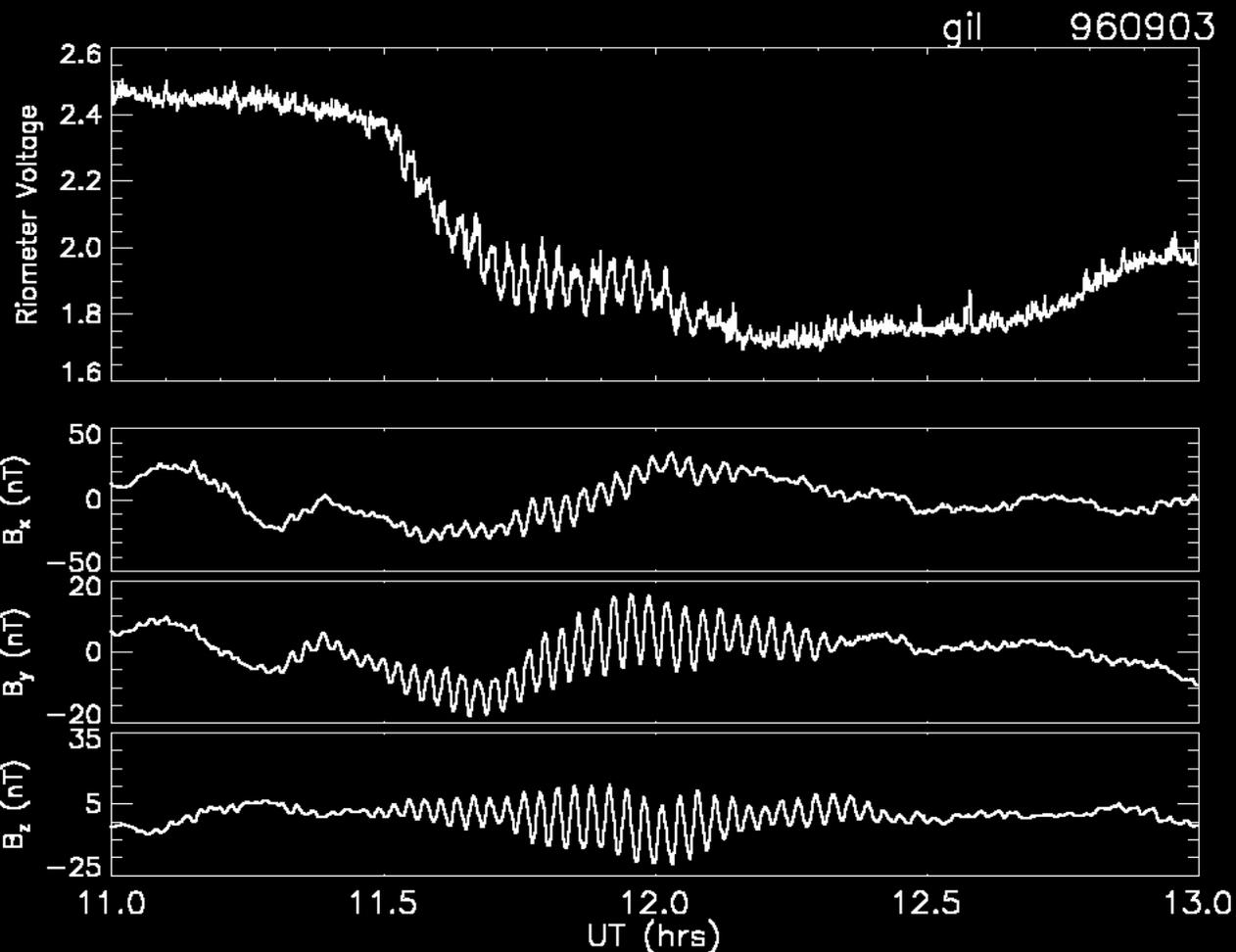
Days

Hours

Minutes

Seconds

< Seconds



Centuries

Decades

Years

Months

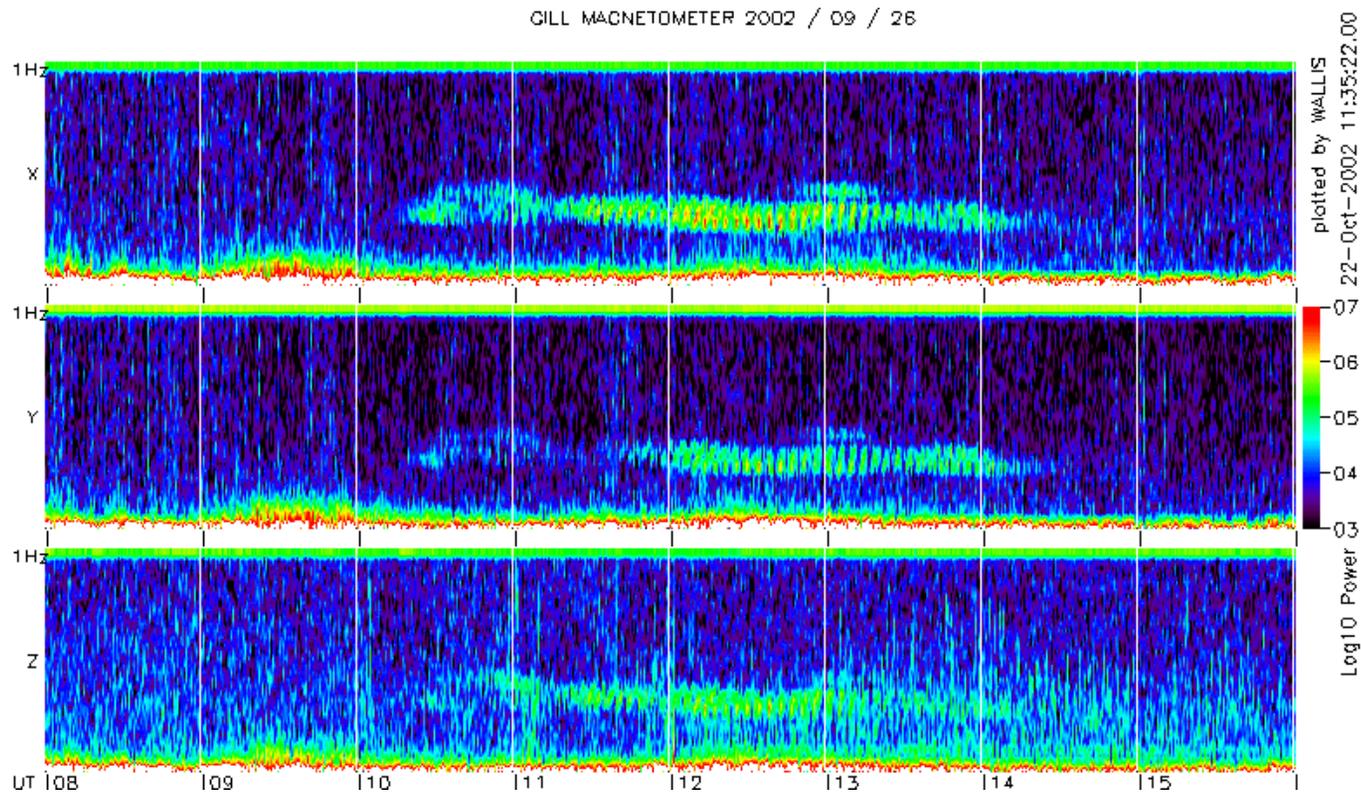
Days

Hours

Minutes

Seconds

< Seconds



Global

11 Oct 2001

03:30:00 - 03:32:00 UT

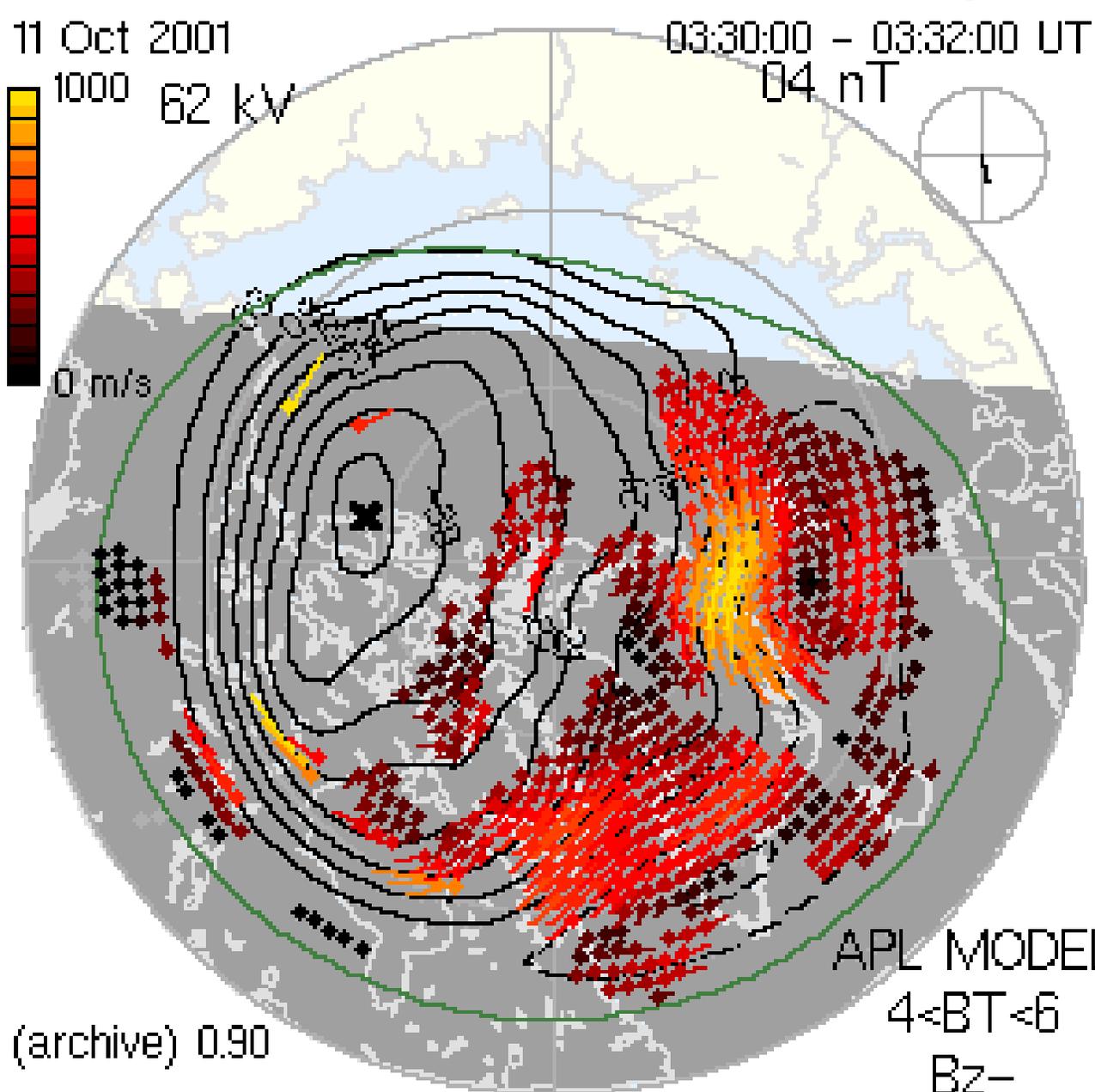
1000 62 kV

04 nT

Mesoscale

Kilometer

Meter



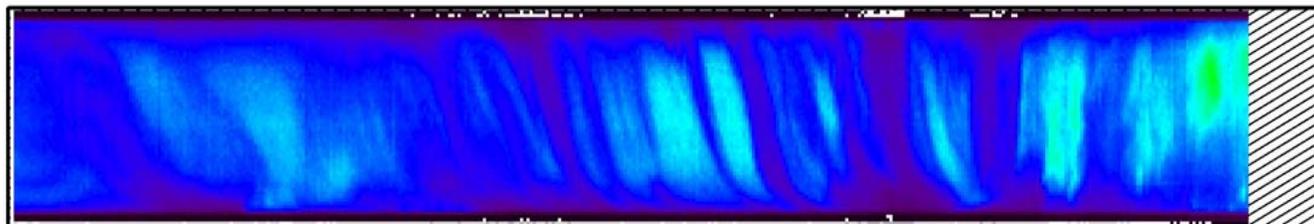
(archive) 0.90

APL MODEL

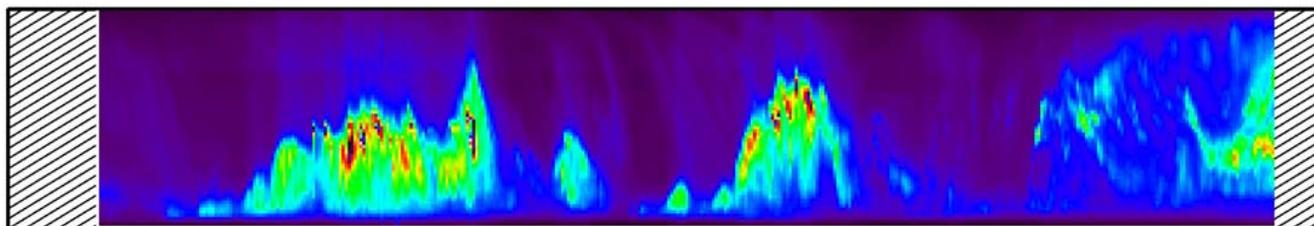
4 < BT < 6

Bz -

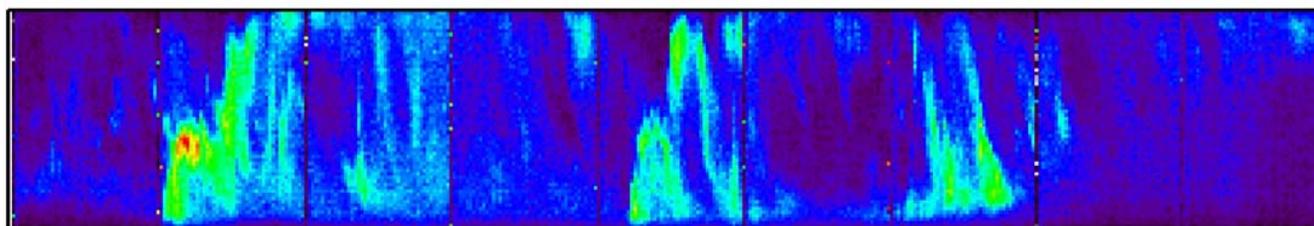
Global



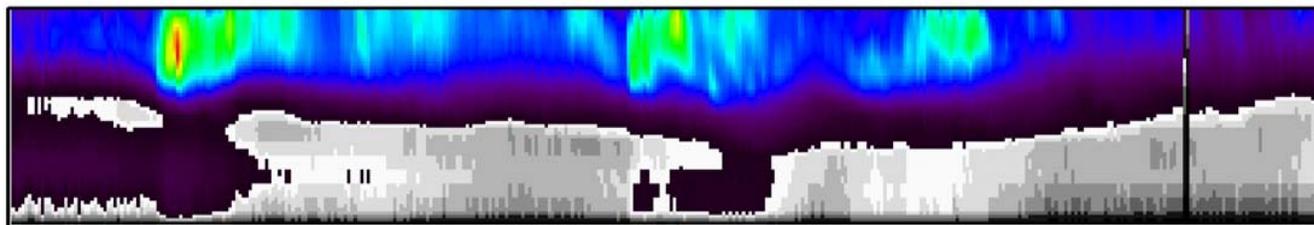
Mesoscale



Kilometer



Meter



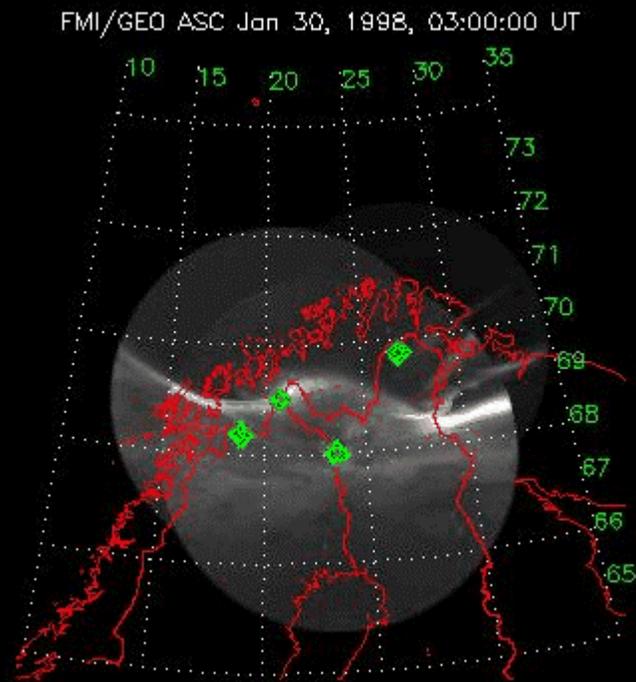
0400 0500 0600 0700 0800 0900 1000 1100
UT (hours)

Global

Mesoscale

Kilometer

Meter

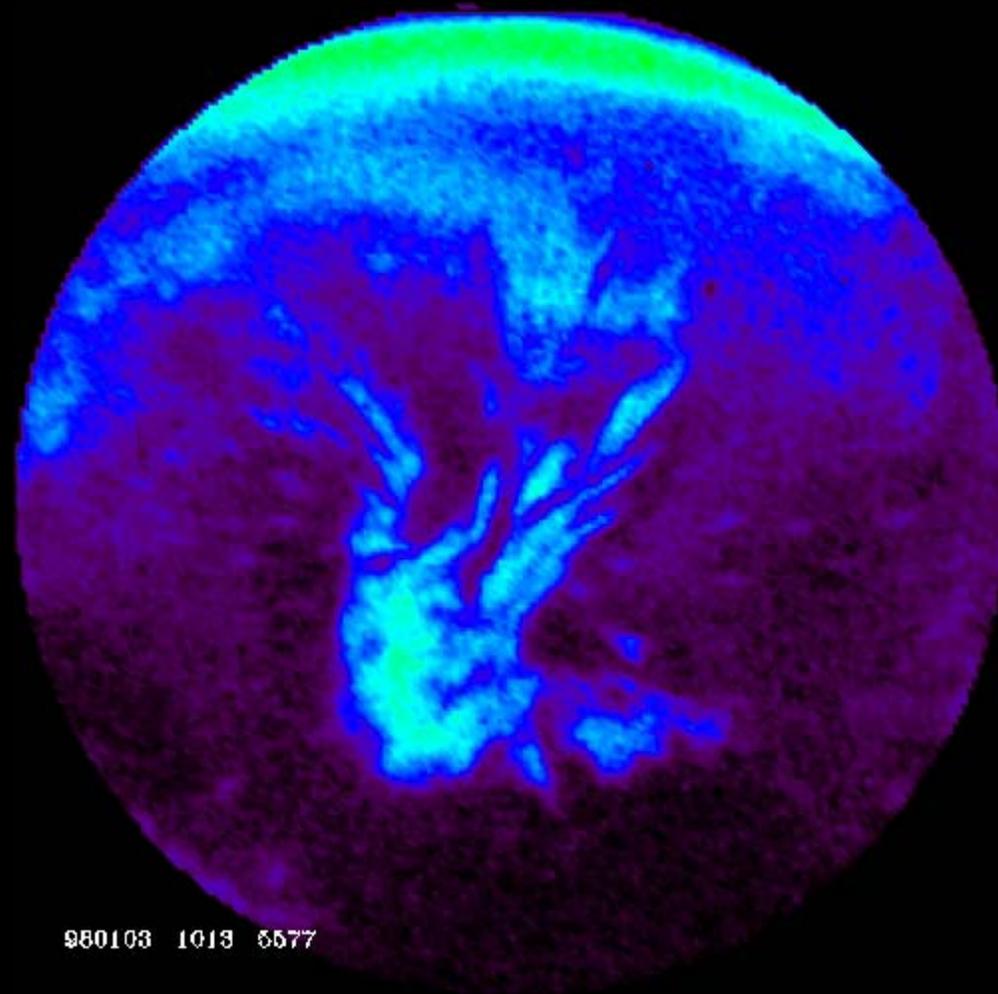


Global

Mesoscale

Kilometer

Meter

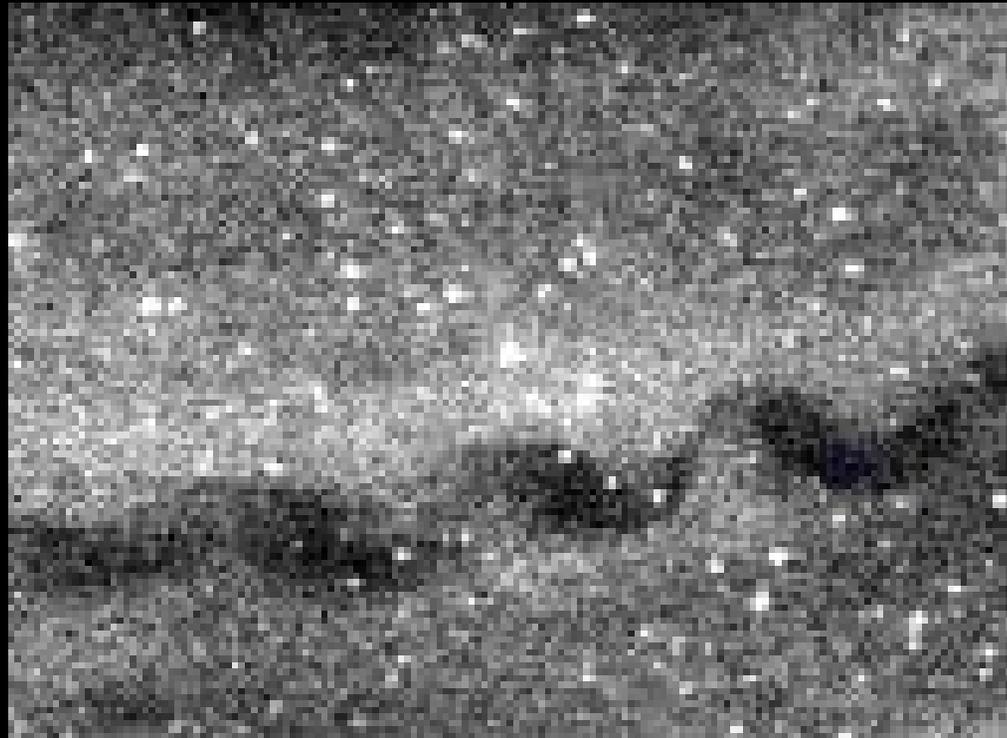


Global

Mesoscale

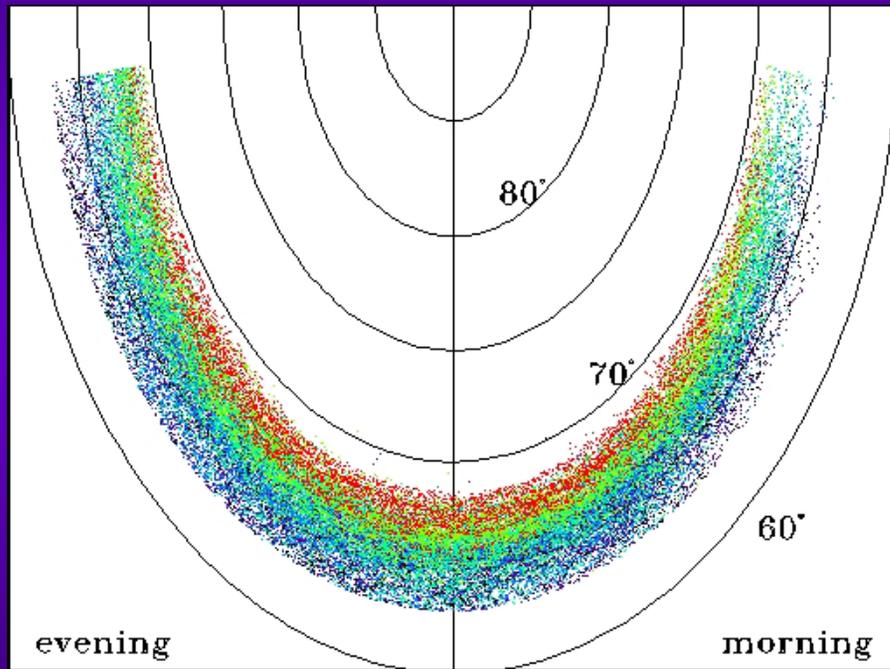
Kilometer

Meter

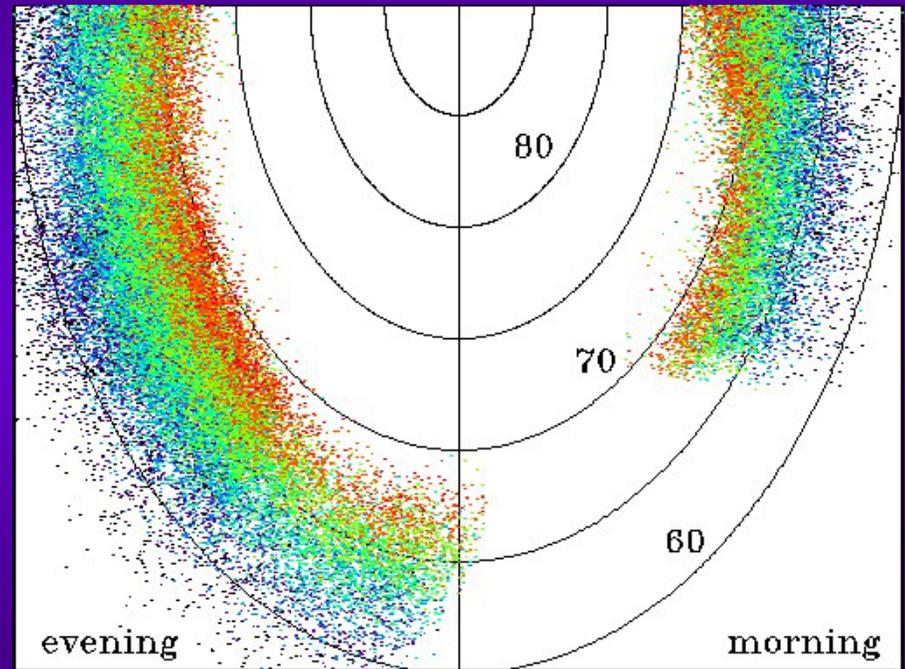


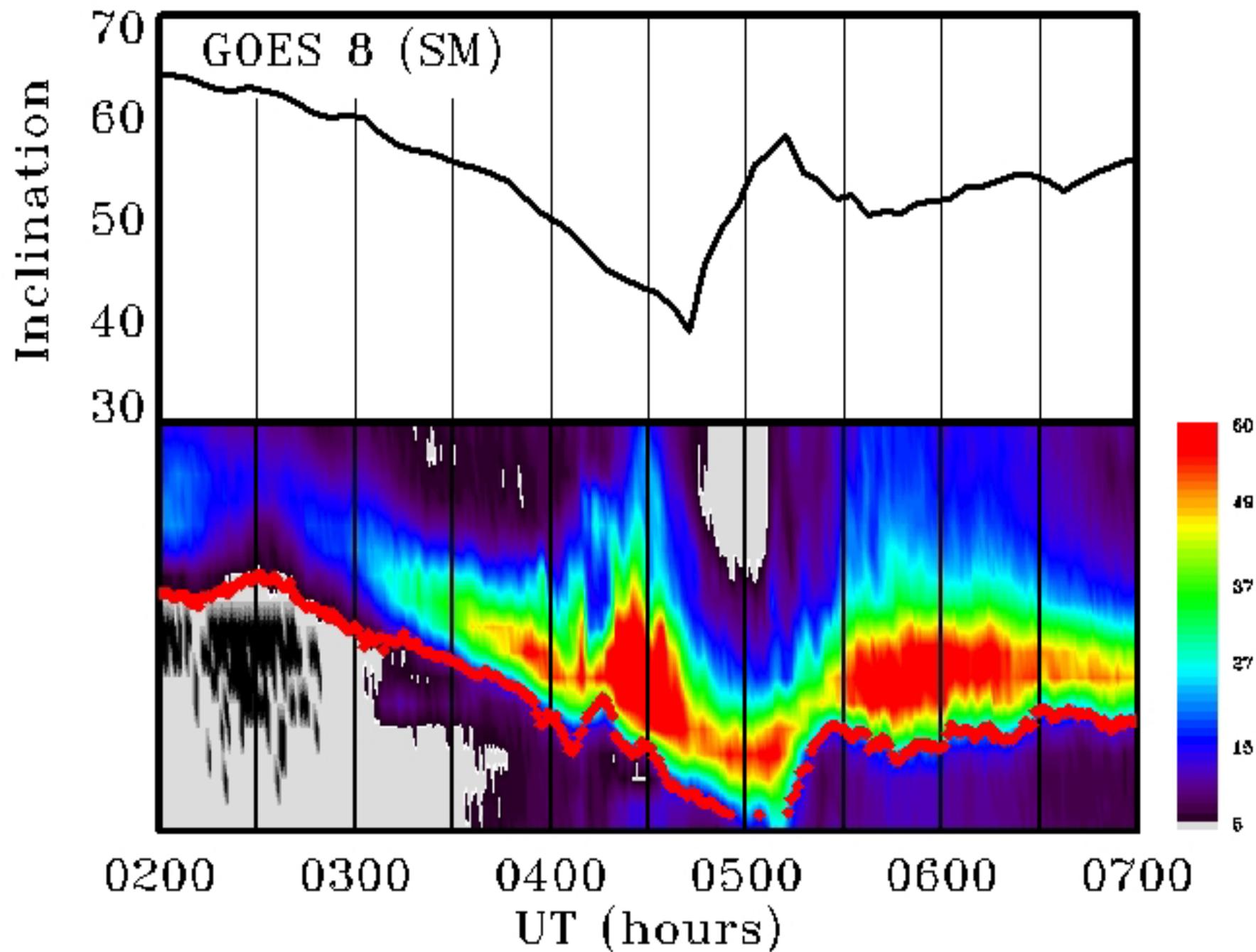
Complementarity

Ground



Space





Global Arrays and Data Issues

GAIA

MIRACLE

UNIS

BAS

OULU

NORSTAR

UA-GI

SRI

THEMIS

•

•

•

Mags

IMAGE

CANOPUS

CANMOS

DMI

M210

UA-GI

SAMNET

MAGIC

SAMBA

•

•

•

GLORIA

Oulu

Lancaster

NORSTAR

UA-GI

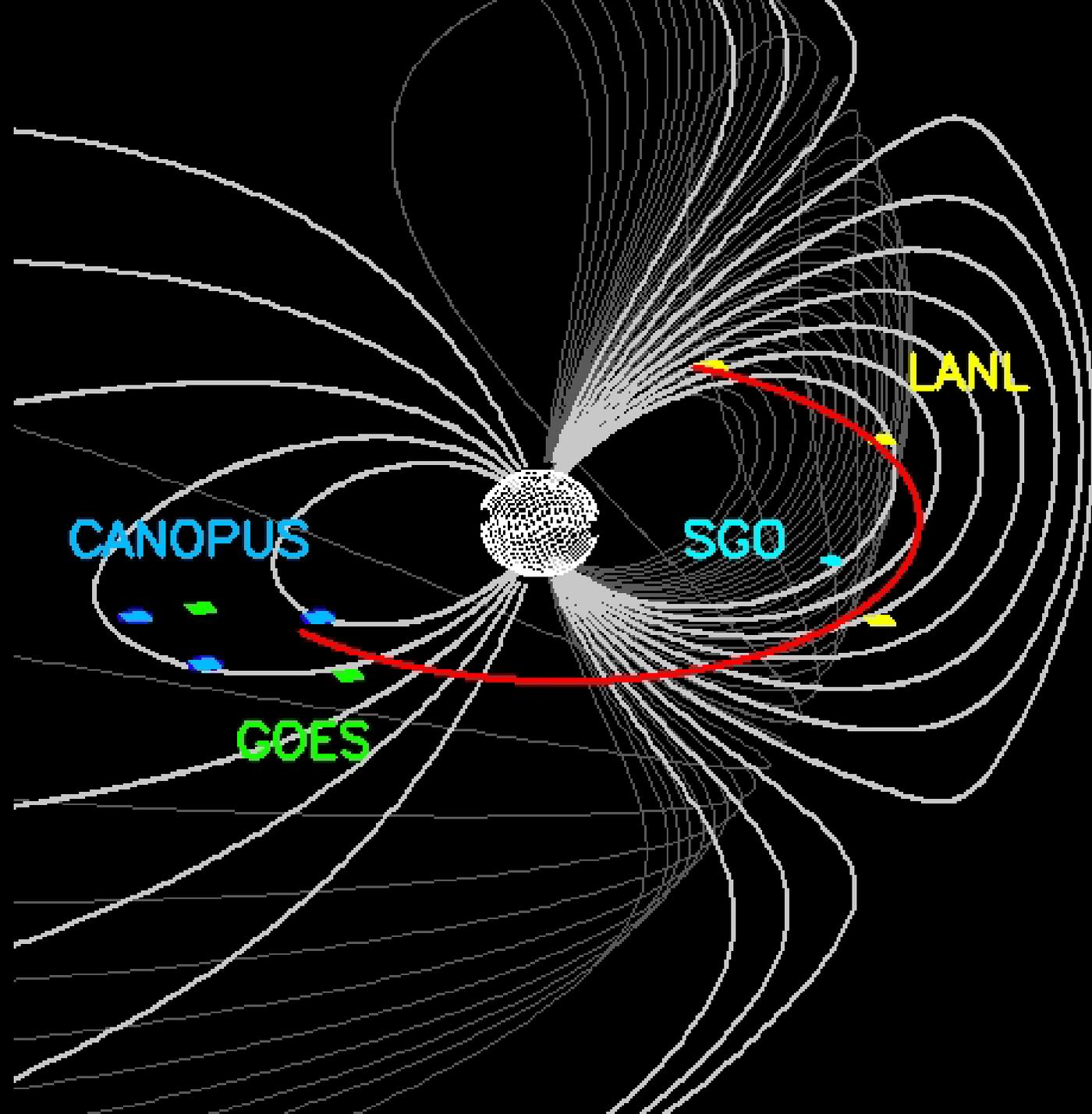
Maryland

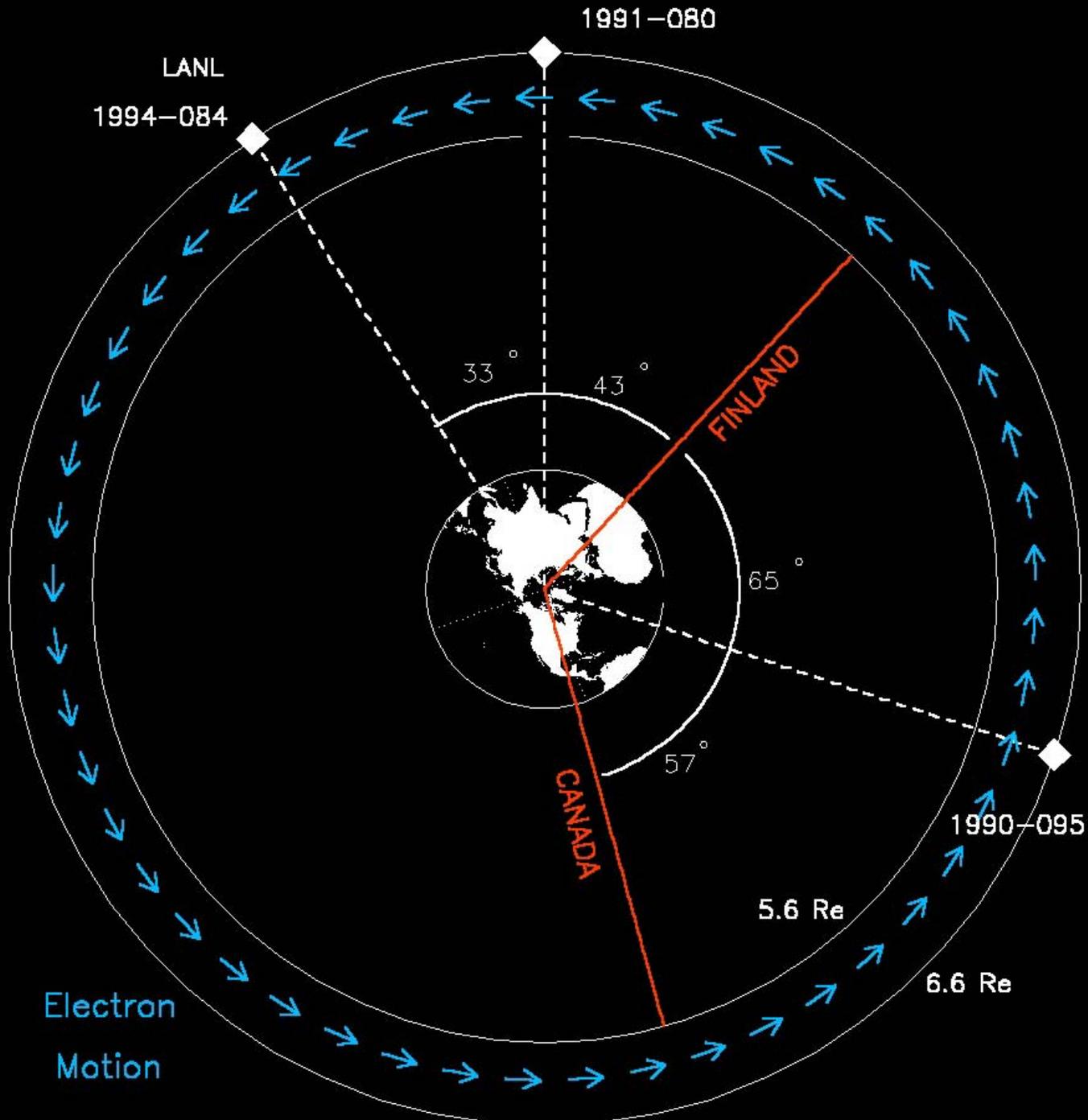
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Electron
Motion

GLORIA 970127

CANADA

L=4.3

L=5.5

FINLAND

L=4.4

L=5.6

absorption

LANL Electron Data (L=6.6)

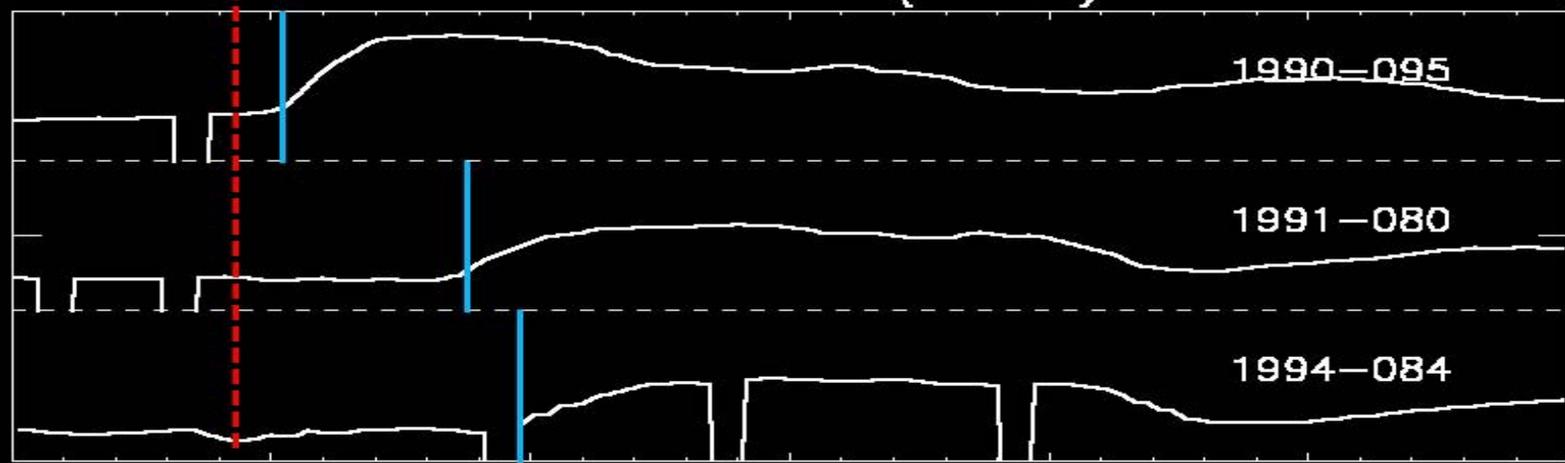
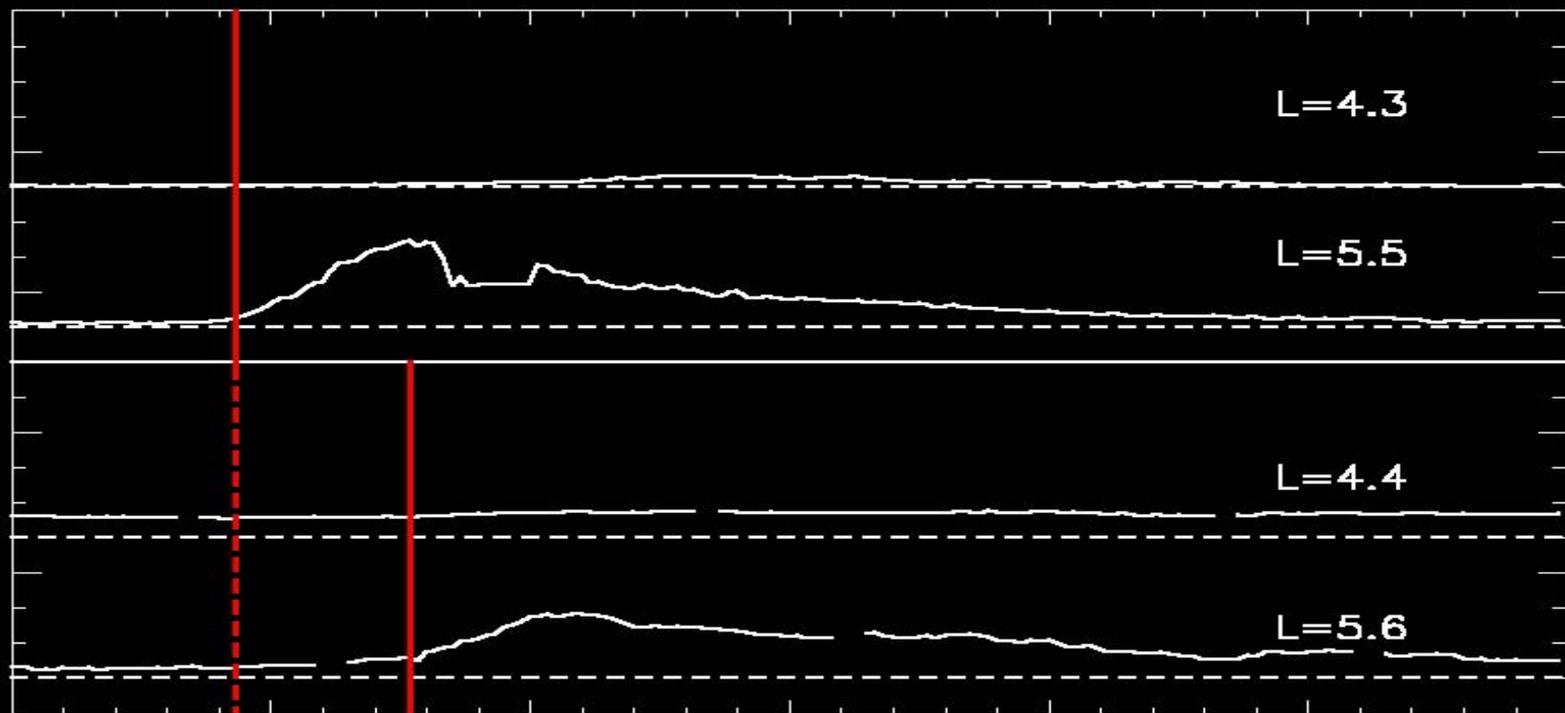
1990-095

1991-080

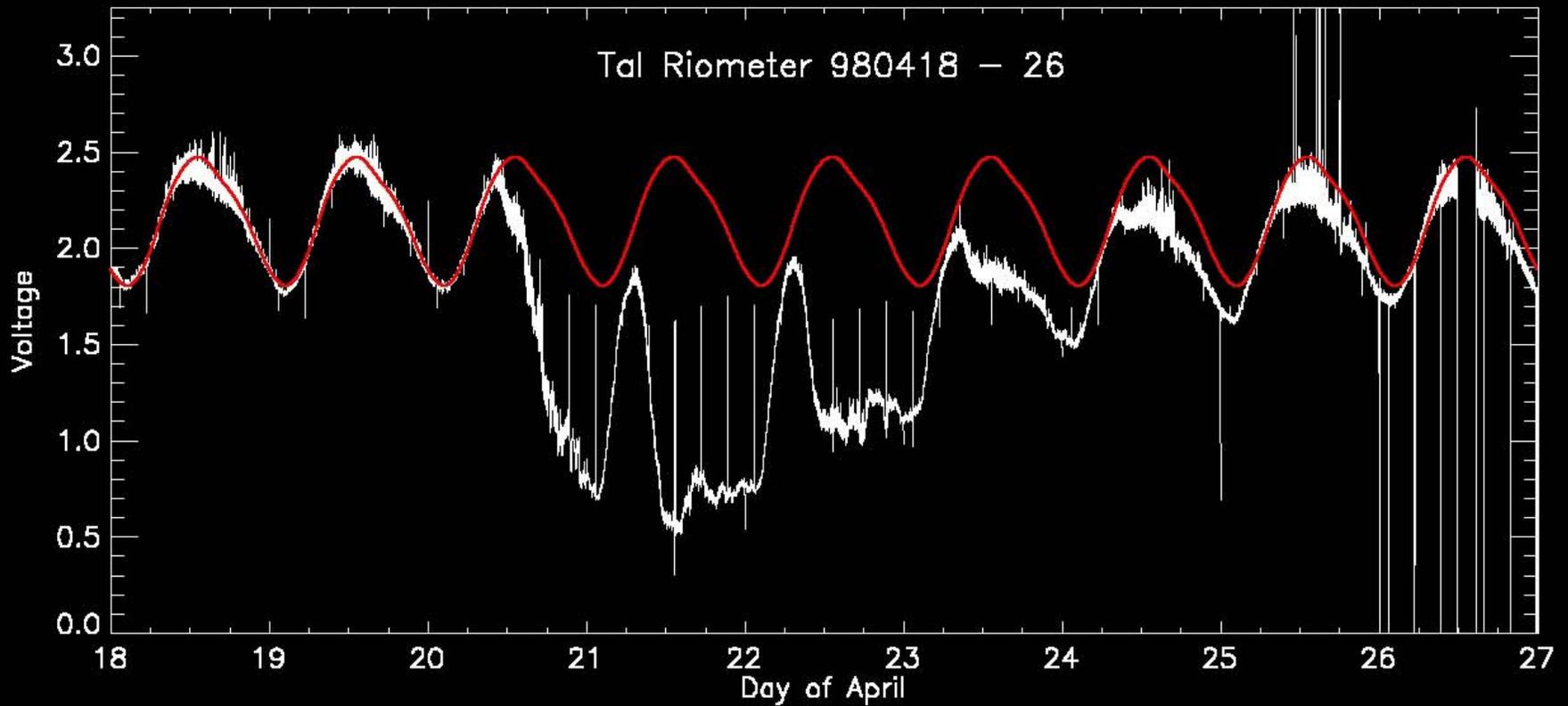
1994-084

127 keV Electron Flux

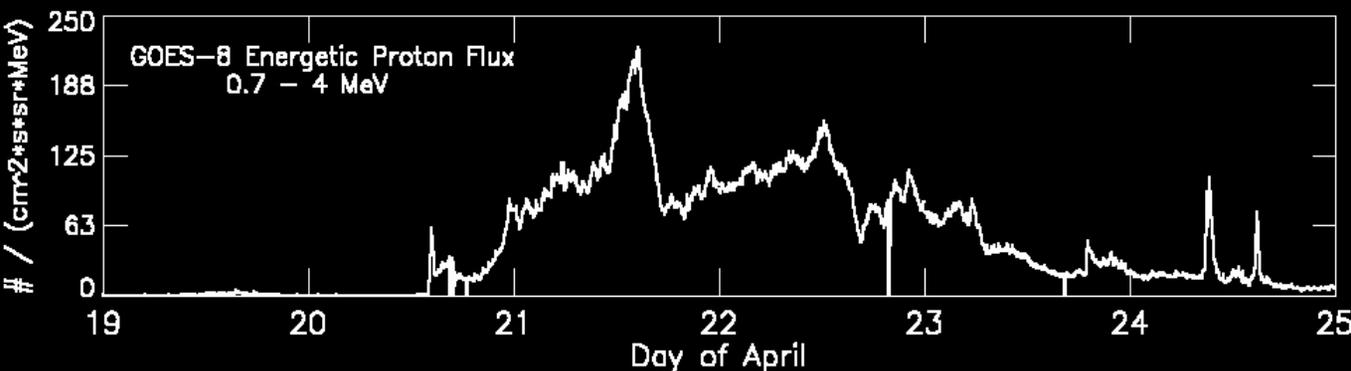
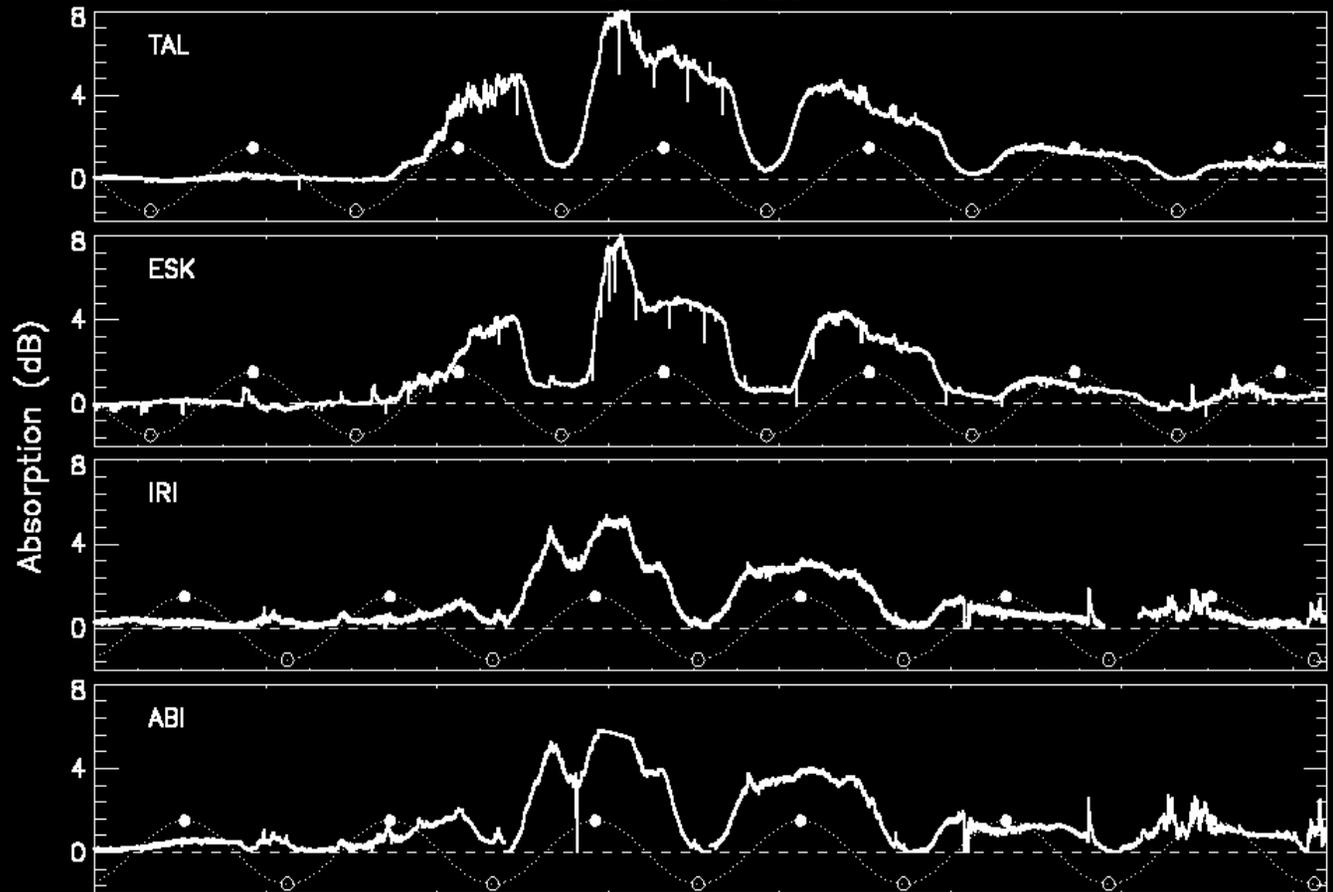
10.0 10.5 11.0 11.5 12.0 12.5 13.0
UT (hrs)



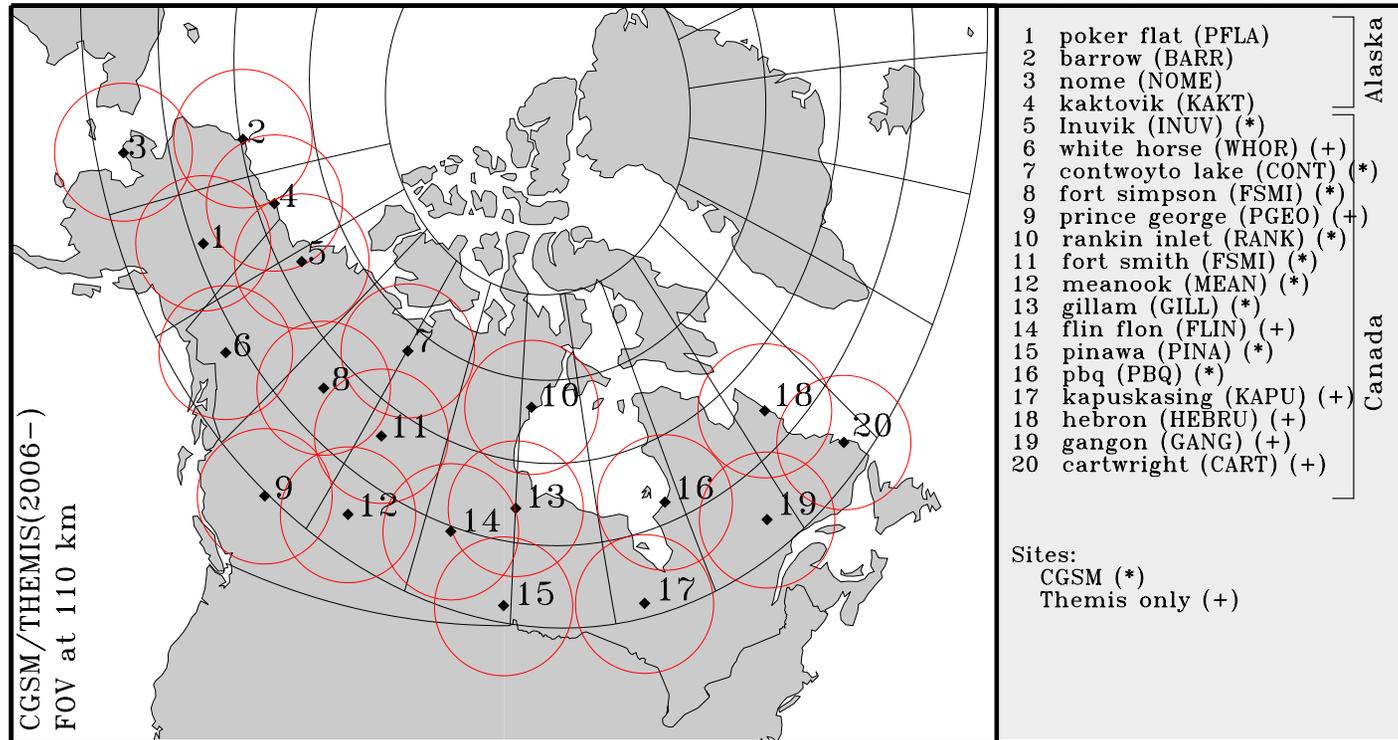
Polar Cap Absorption Events



980419-25



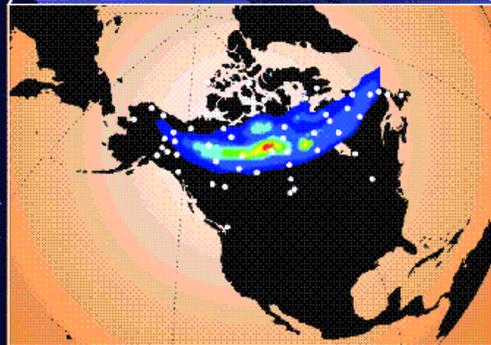
Data sets are ever-expanding (THEMIS an extreme example).



Answer – NAPSTER for Space Science (Raeder and Weygand)

TIME HISTORY OF EVENTS AND MACROSCALE
INTERACTIONS DURING SUBSTORMS

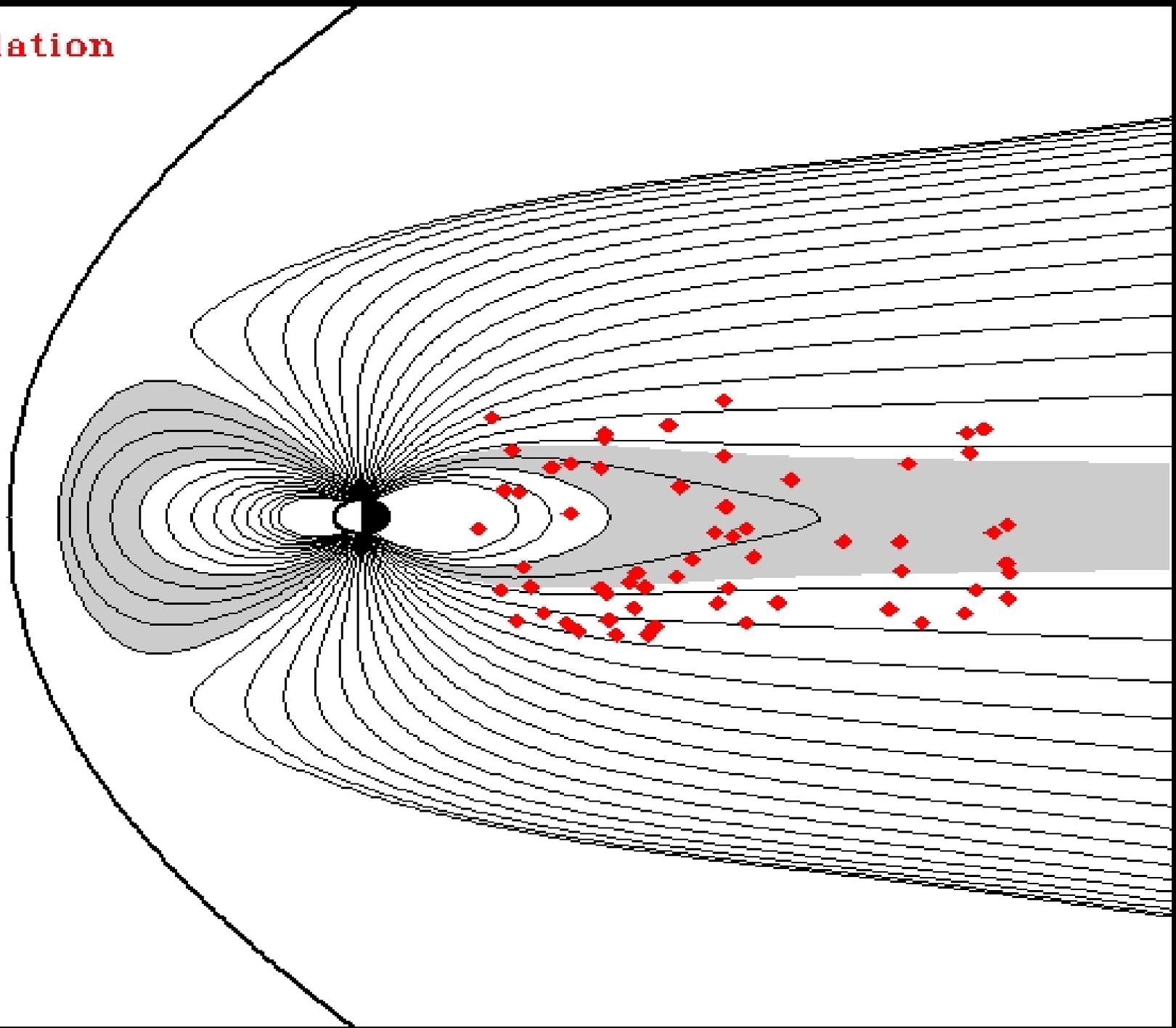
THEMIS



A MEDIUM-CLASS EXPLORER MISSION
PROPOSAL IN RESPONSE TO NASA AO 01-OSS-03

SUBMITTED BY THE
REGENTS OF THE UNIVERSITY OF CALIFORNIA
OCTOBER 30, 2001

Constellation



ILWS



Ground-based Task Group

Donovan, Rankin (Canada)

Takahashi (Japan)

Kauristie, Amm (Finland)

Basu, (J) Kelly, K. Baker, Engebreston, Onsager (USA)

McCrae, Roger, Wild (UK)

Marcucci (Italy)

Dyson (Australia)

XXXX (Russia)

YYYY (Solar ground-based ?????)

Alternates: Sibeck, Angelopoulos, Greenwald, Lester, Tapping

ILWS



Ground-based Task Group

- Donovan, Kauristie (Optics, Riometers)
- Takahashi, Engebretson (Magnetometers)
- Kelly, McCrae (Incoherent Scatter)
- Basu (CAWSES)
- Marcucci, Roger (Polar)
- Dyson, Baker (SuperDARN)
- Wild (Cluster Ground-based Working Group)
- Rankin, Amm, Onsager (Modelling, Simulation, Assimilation)
- YYYY (Solar Ground-based)