



## Coordinated campaign

ALFA- POLARLIS- EISCAT- SuperDARN- YR all-sky- DEMETER- THEMIS- CHAMP

KHO/Svalbard, 4-14 December 2007

### Research program

- Arc dynamics and plasma convection
- O<sup>+</sup> outflowing from the regions of anti-parallel currents
- Thermal balance in the current regions
- Magnetic reconnection as a source of plasma acceleration and gravity waves
- Field- perpendicular light polarization



# ALFA/Svalbard

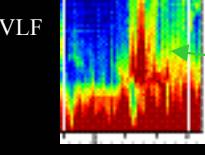
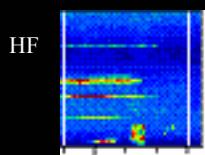
8-9 December

Gravity waves

10:35  
630 nm YR

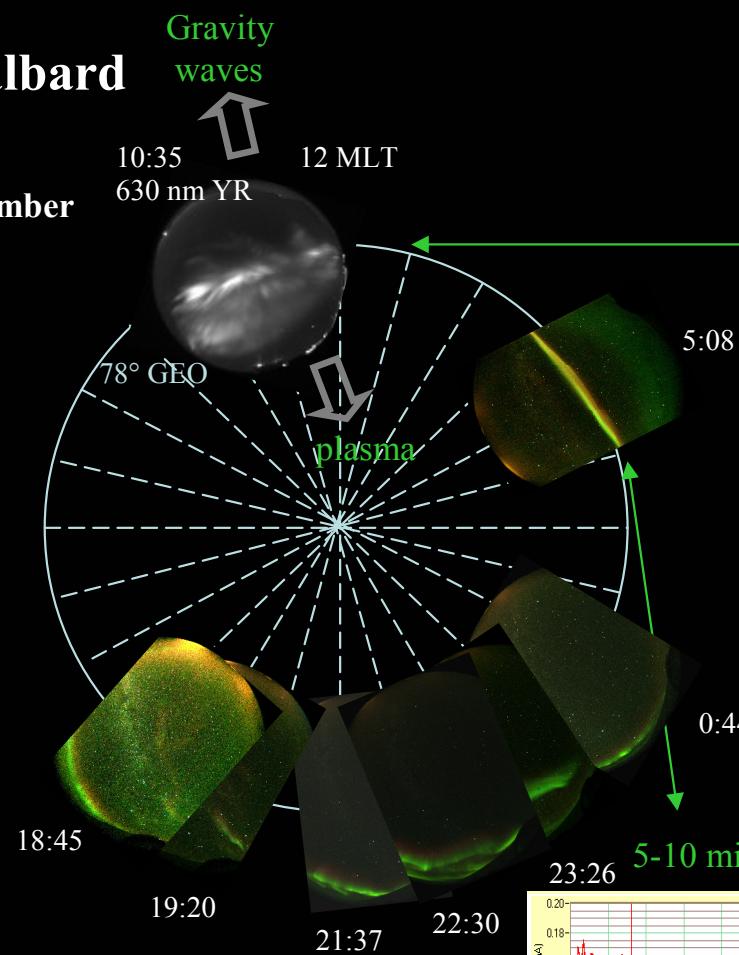
12 MLT

DEMETER  
ICE

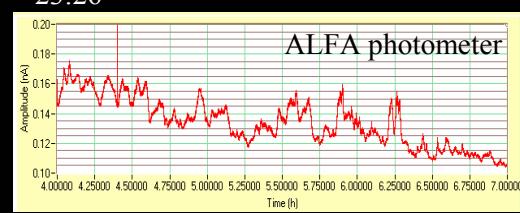


18:45 18:48  
68.4 79.2  
30.5 3.

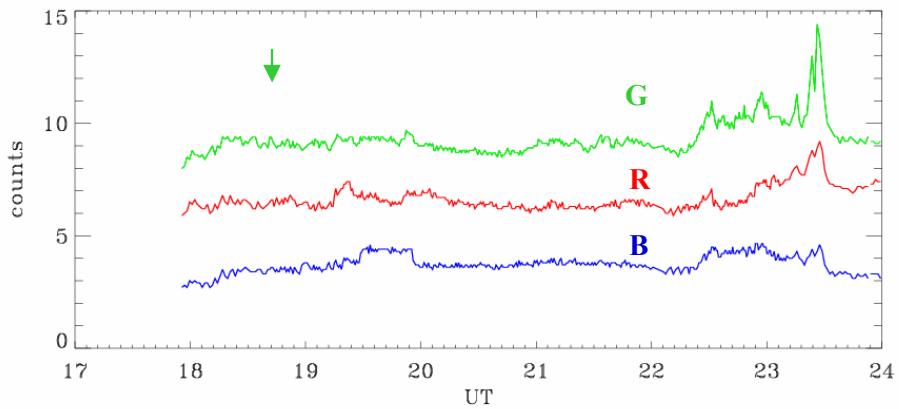
current layer



SD, Finland



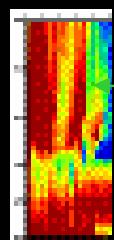
ALFA



# ALFA/Svalbard

DEMETER  
ICE

VLF



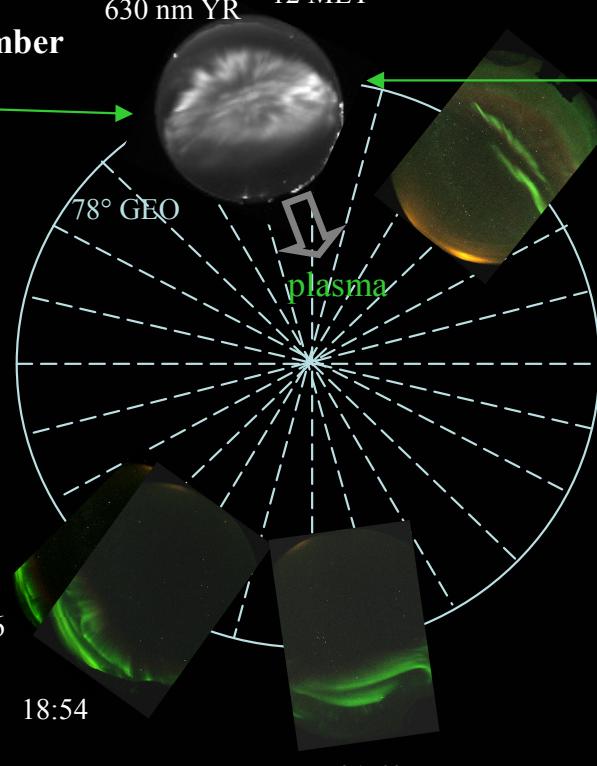
10:06 10:08  
77.87 71.7  
41.77 25.6

9-10 December

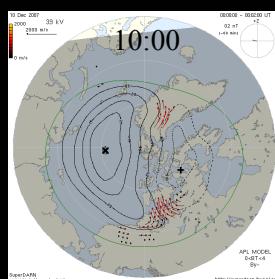
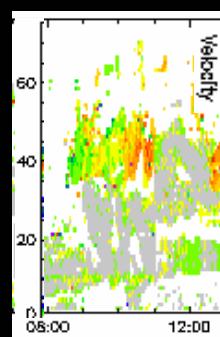
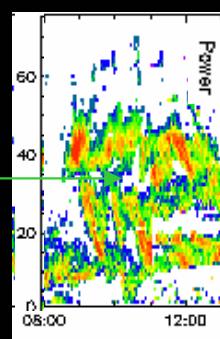
Gravity  
waves

10:05  
630 nm YR

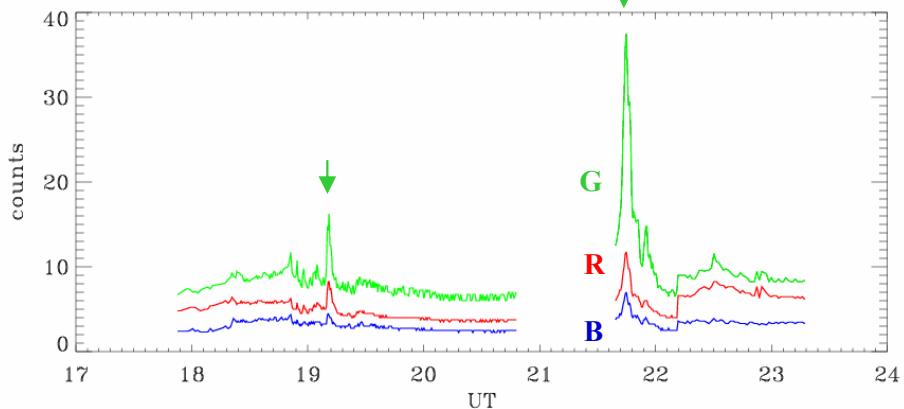
12 MLT



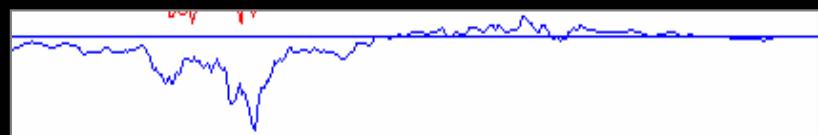
SD, Finland



ALFA



Mag  
Svalbard

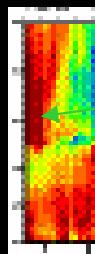


H, nT

-100

# ALFA/Svalbard

DEMETER  
ICE



current layer

VLF

10:39  
70.5  
16.

10-11 December

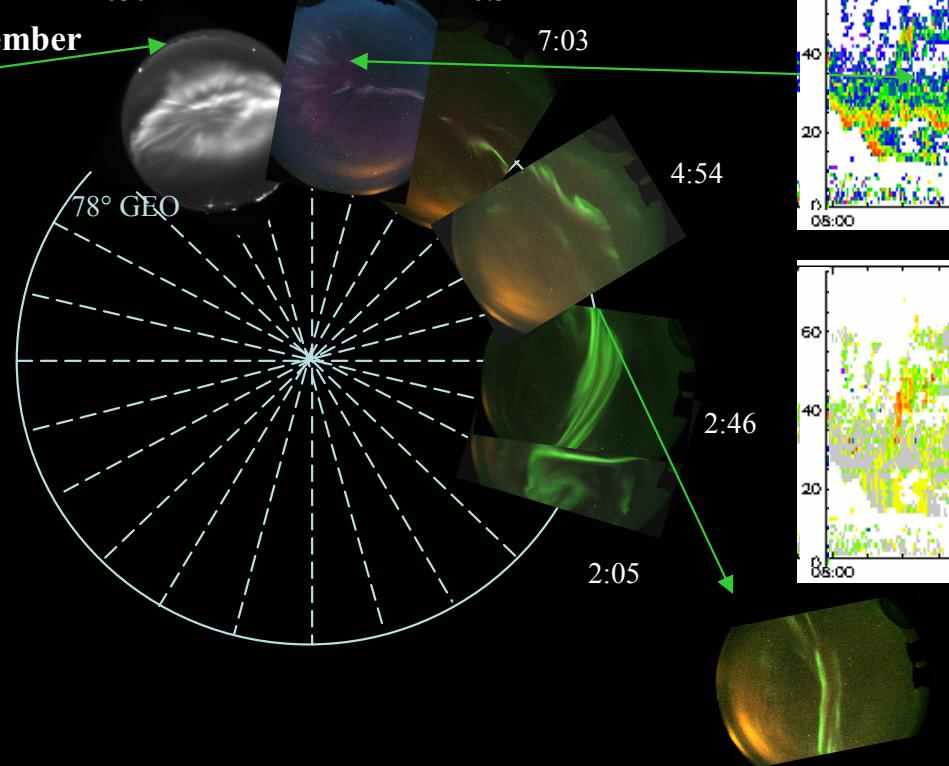
10:37  
630 nm YR

12 MLT

8:32

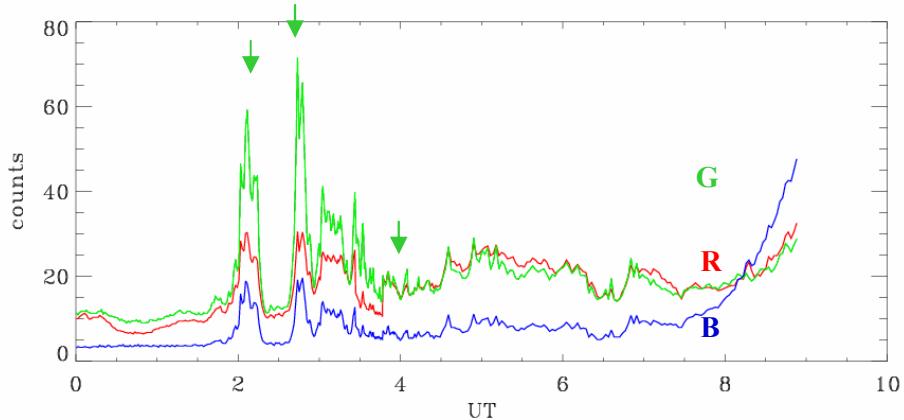
CHAMP:  
8:30 UT  $\pm 1:40$

SD, Finland

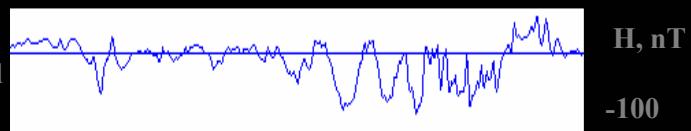


THEMIS/P2 156 km 3:59 UT

ALFA



Mag  
Svalbard

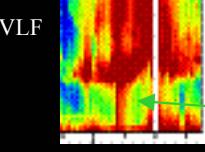
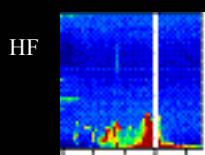


# ALFA/Svalbard

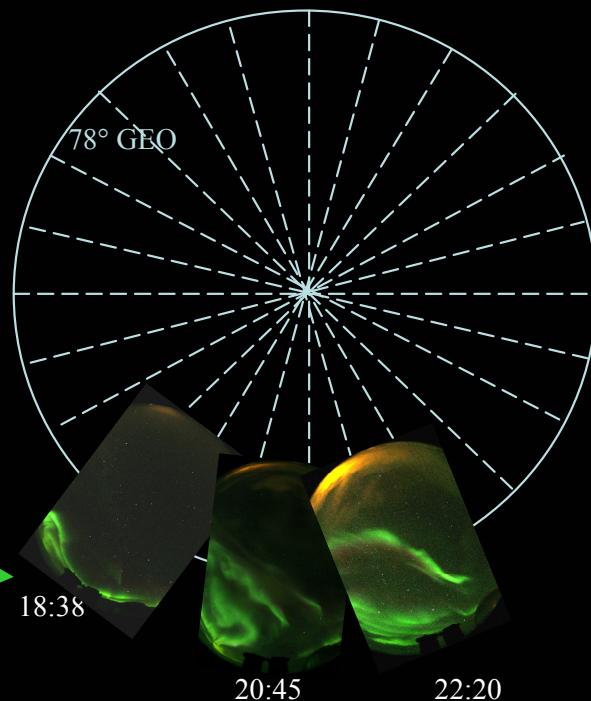
12 MLT

11-12 December

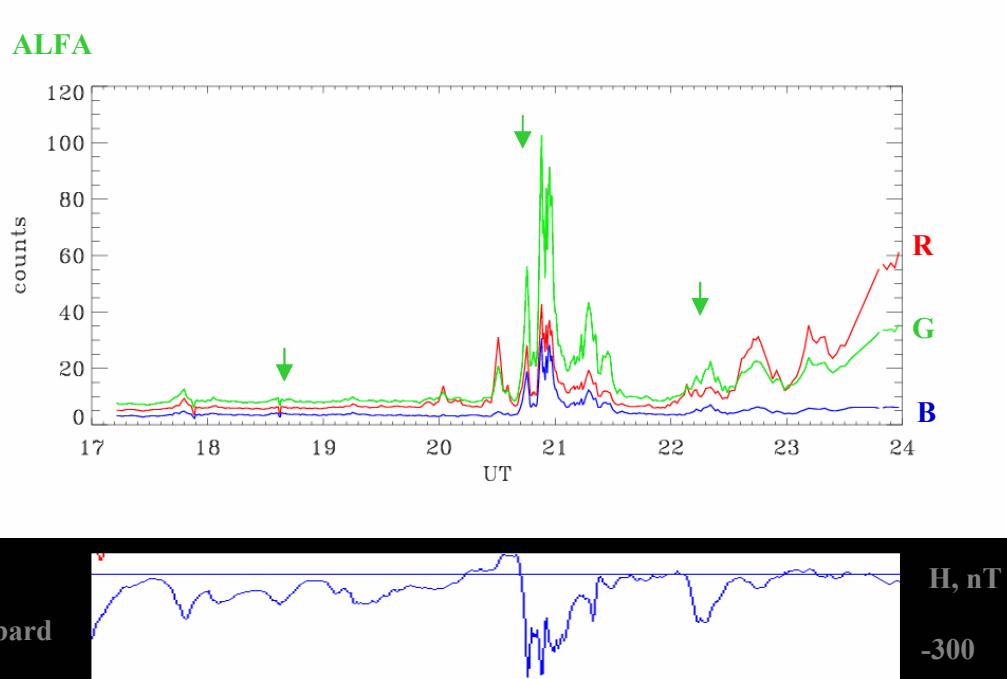
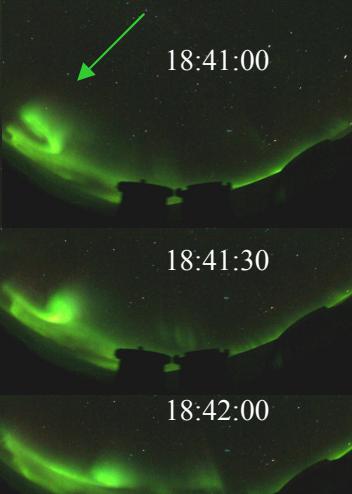
DEMETER  
ICE



18:39 18:42  
68.8 79.5  
31.5 2.8



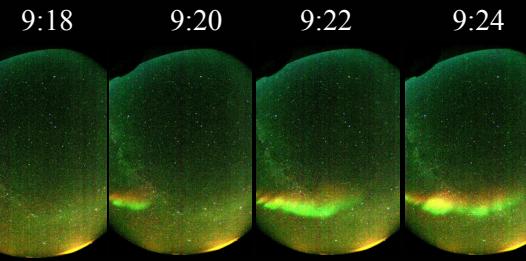
Spiral rolling



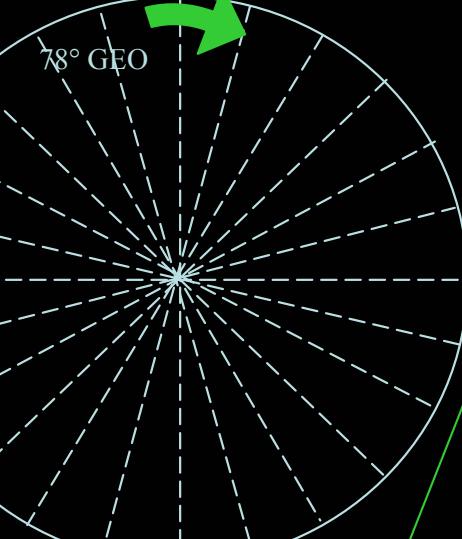
# ALFA/Svalbard

7-8 December

12 MLT

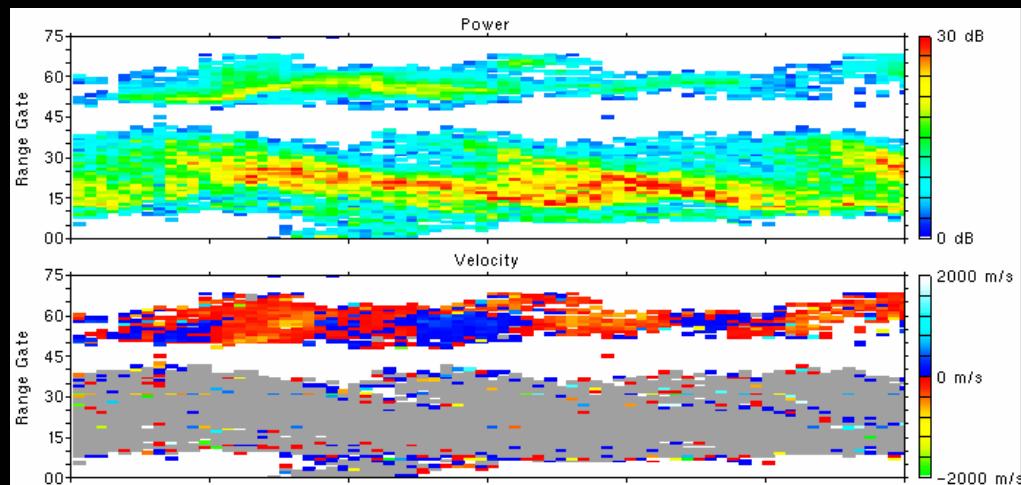


UT



Extension of the  
reconnection region  
toward west

SD, Finland



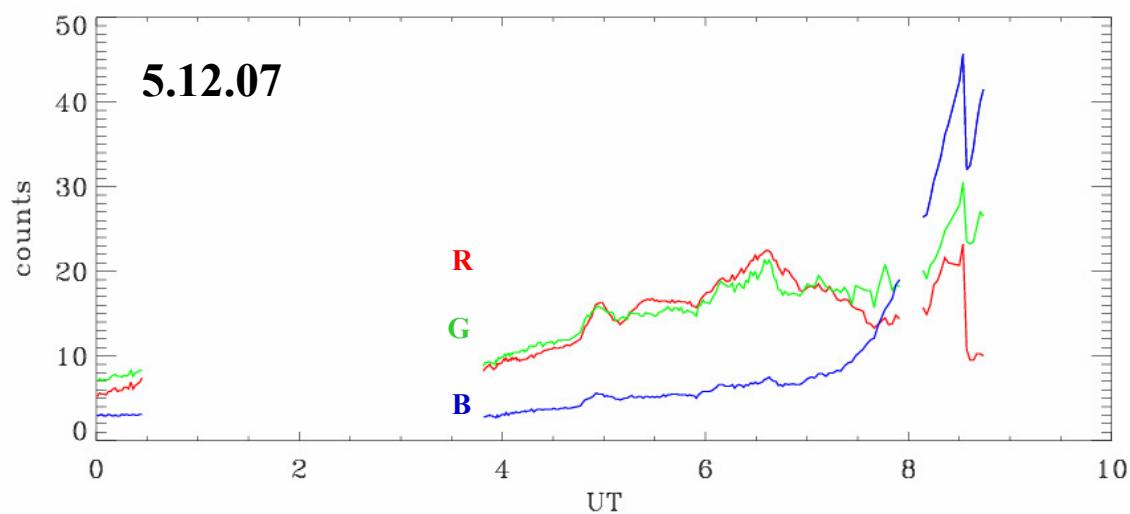
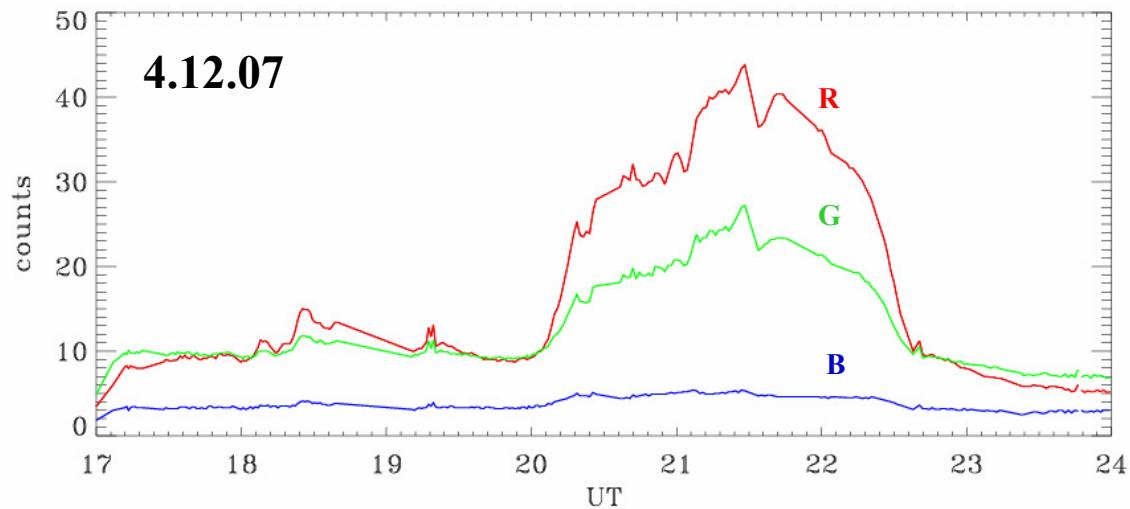
9:00

9:20

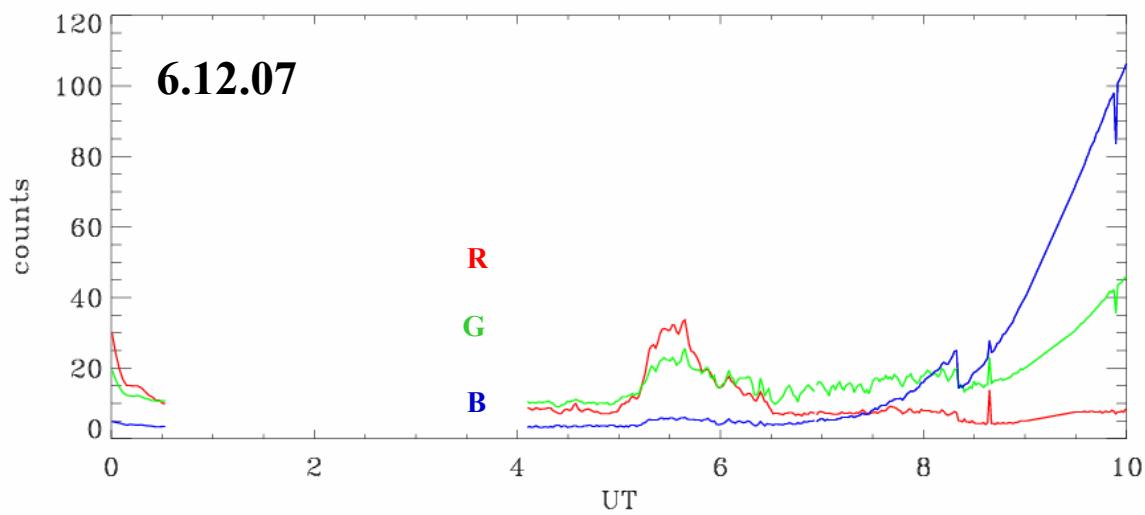
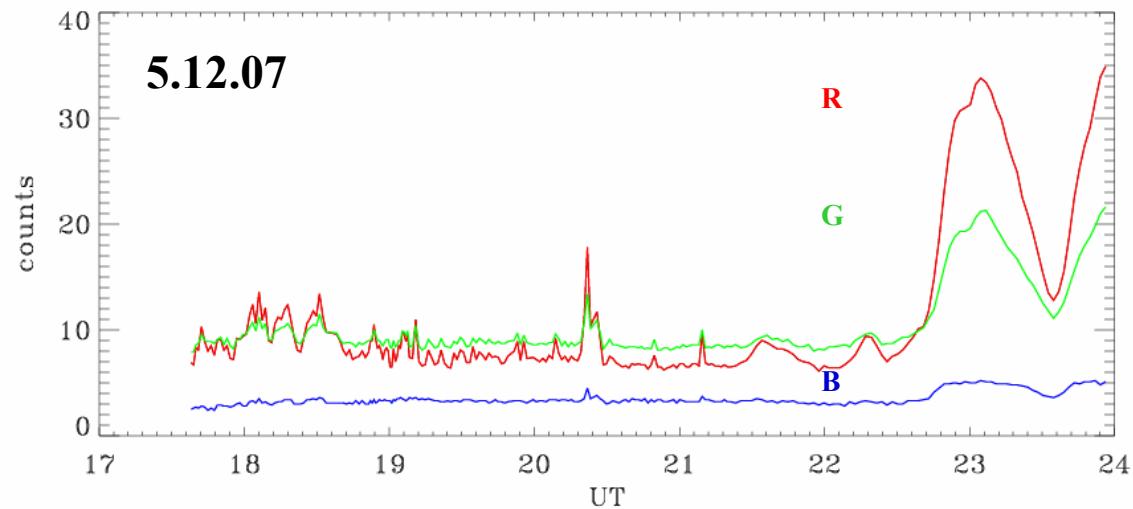
9:40

10:00

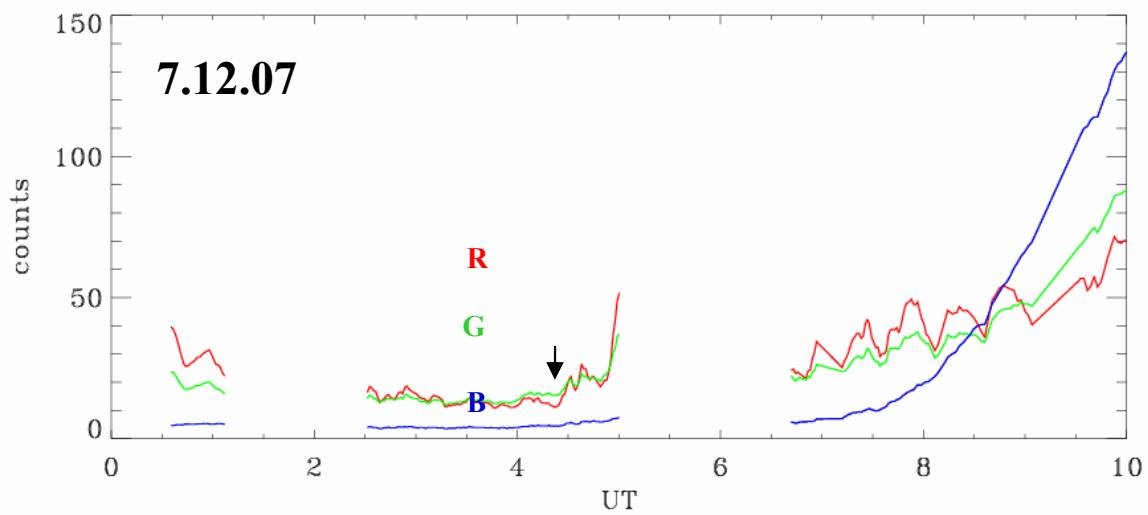
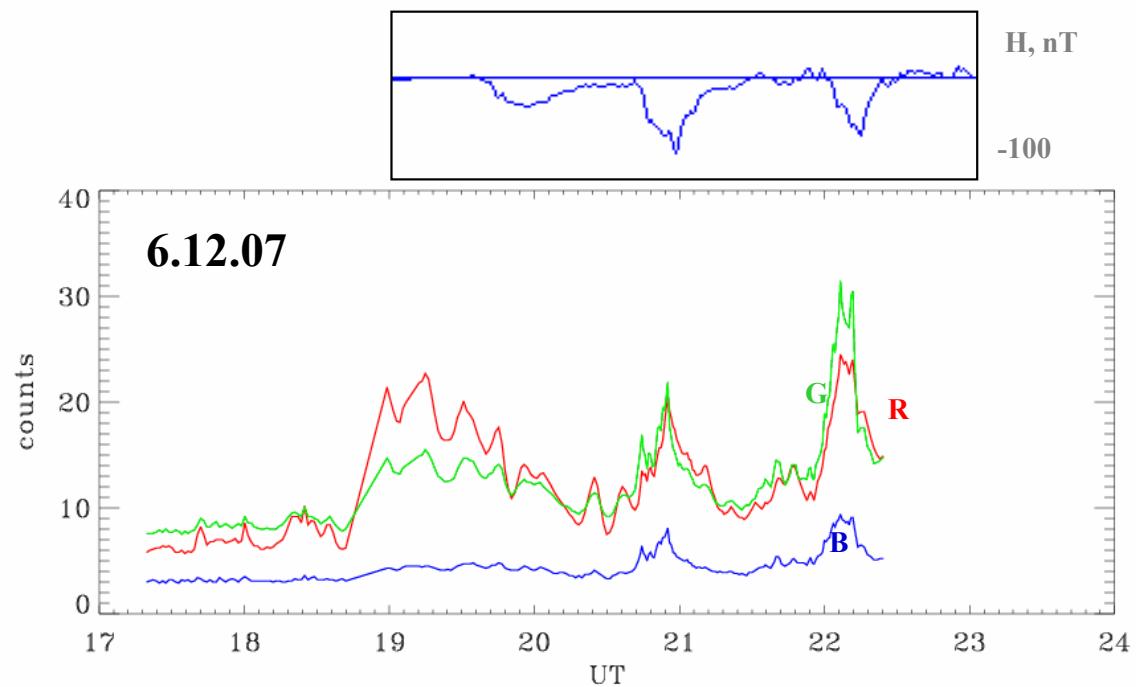
# ALFA/Svalbard



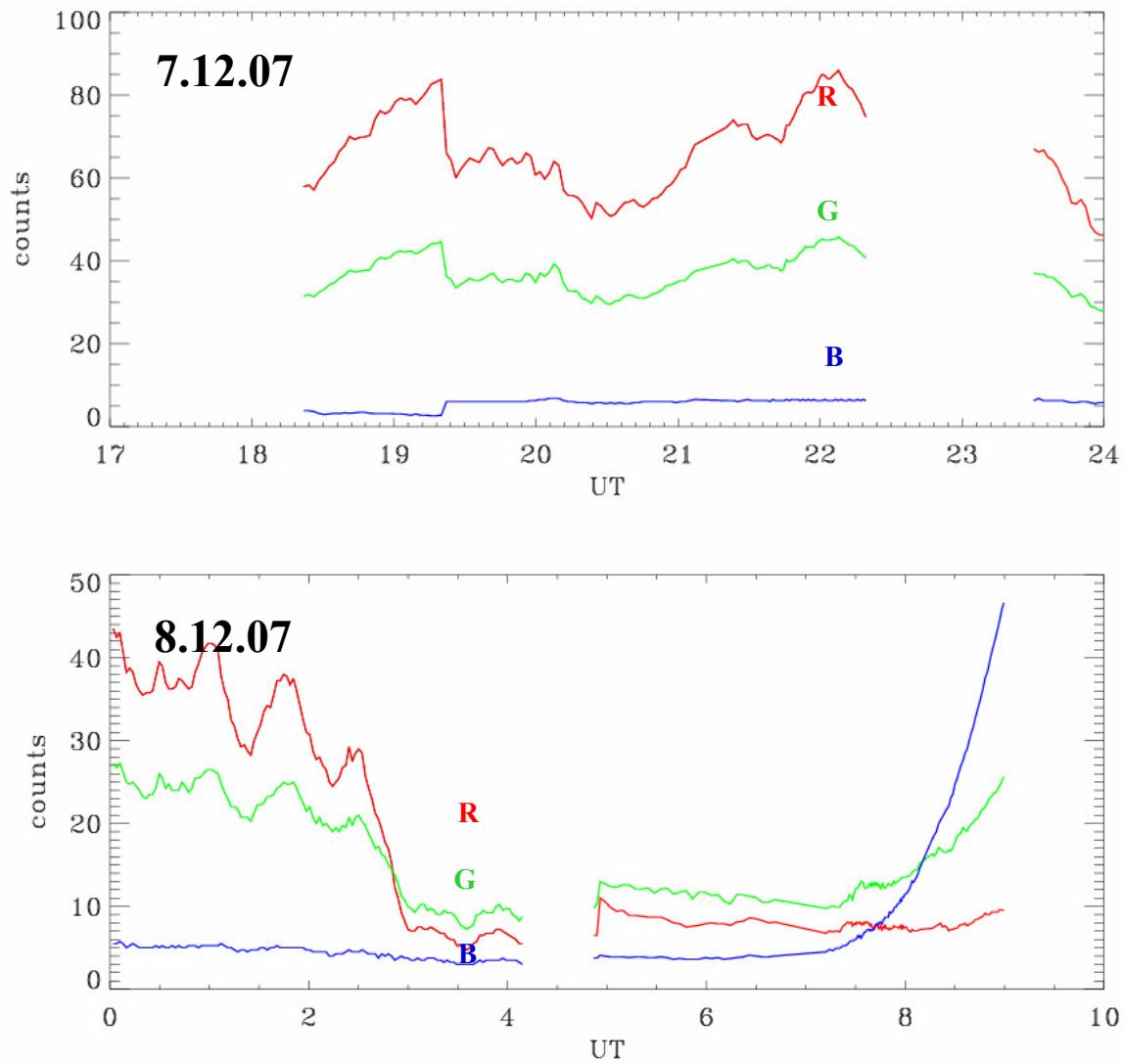
# ALFA/Svalbard



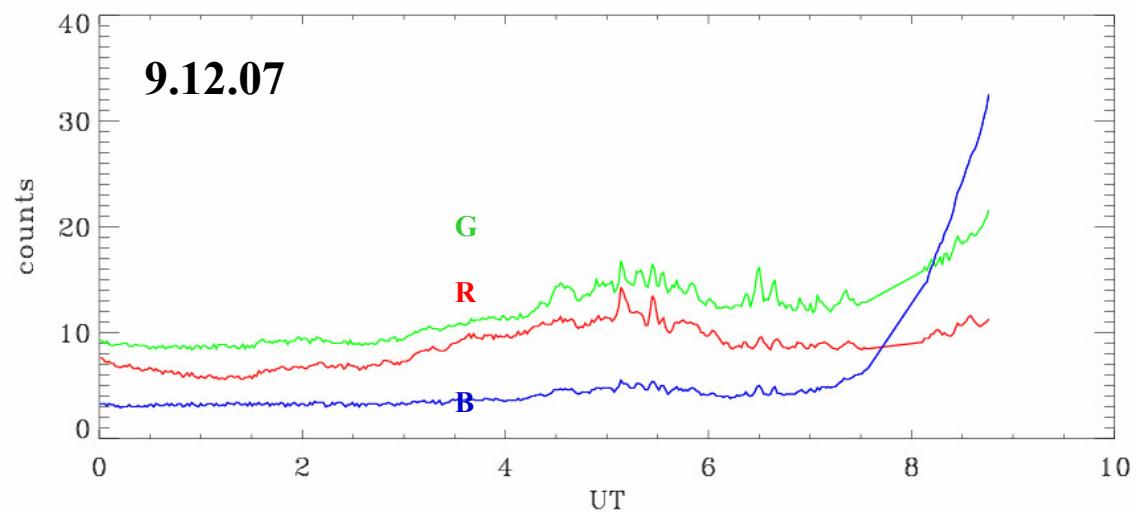
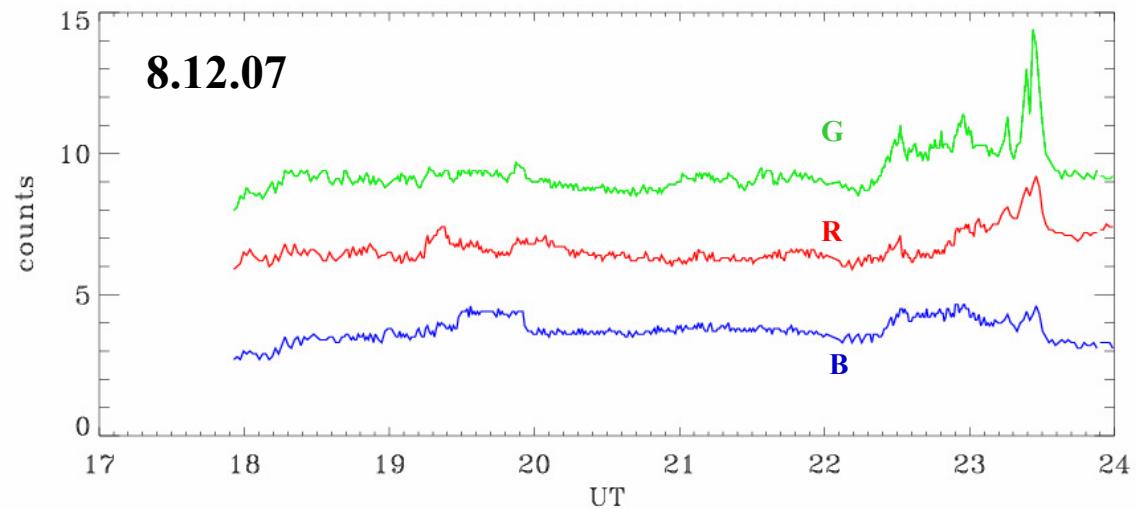
# ALFA/Svalbard



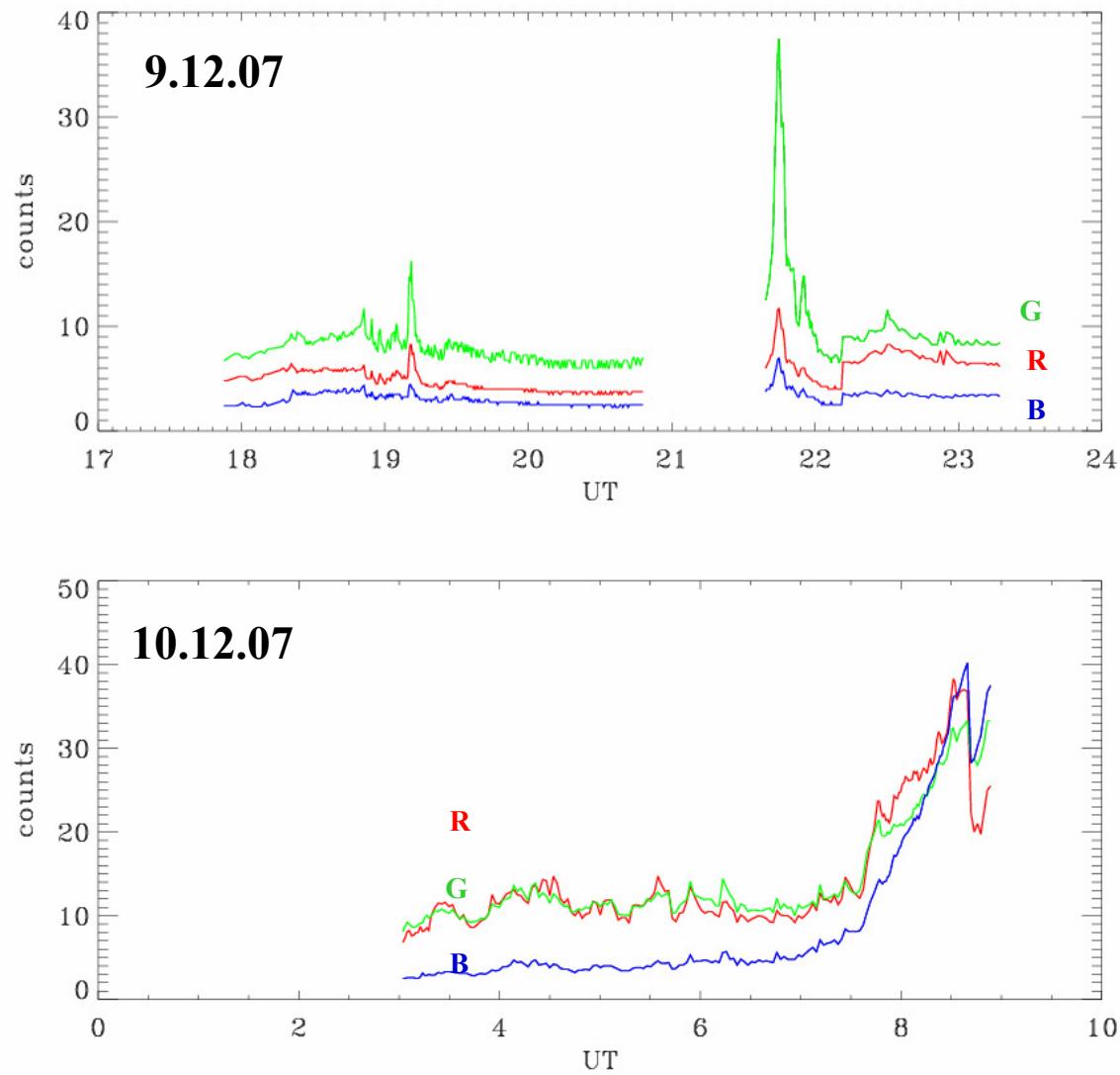
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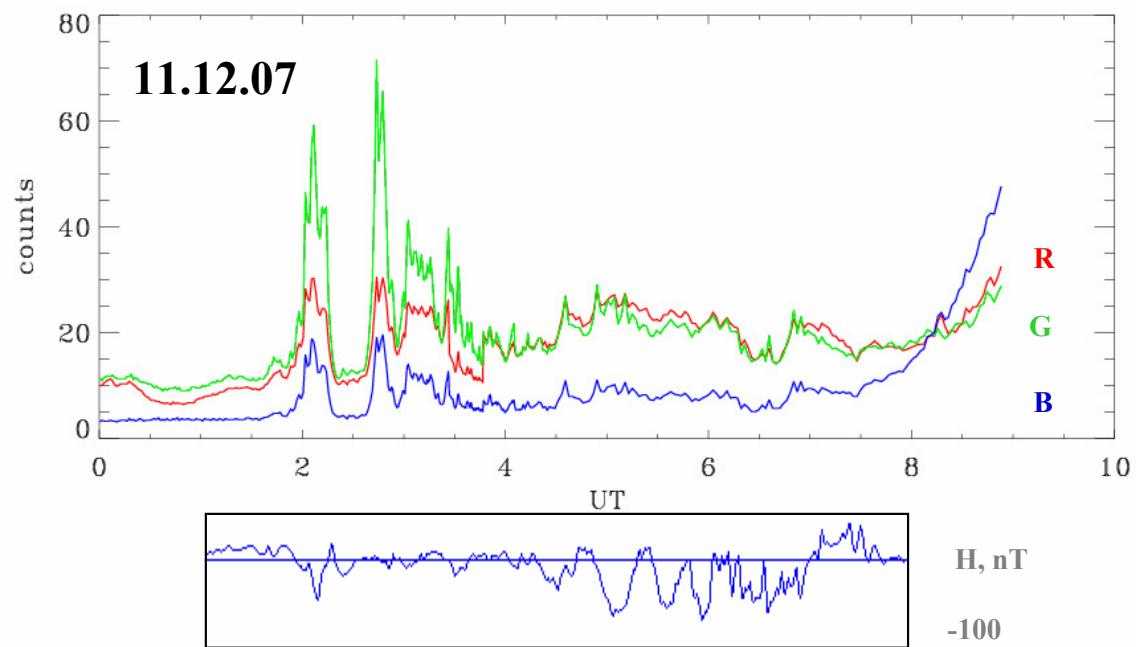
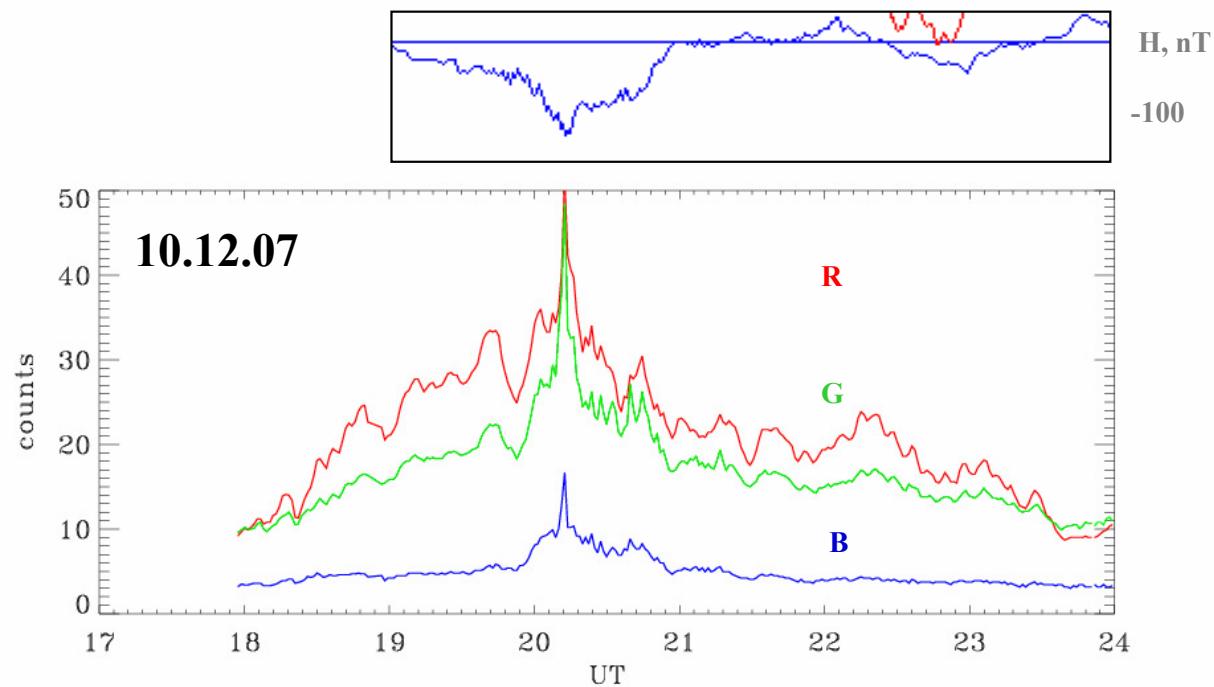
# ALFA/Svalbard



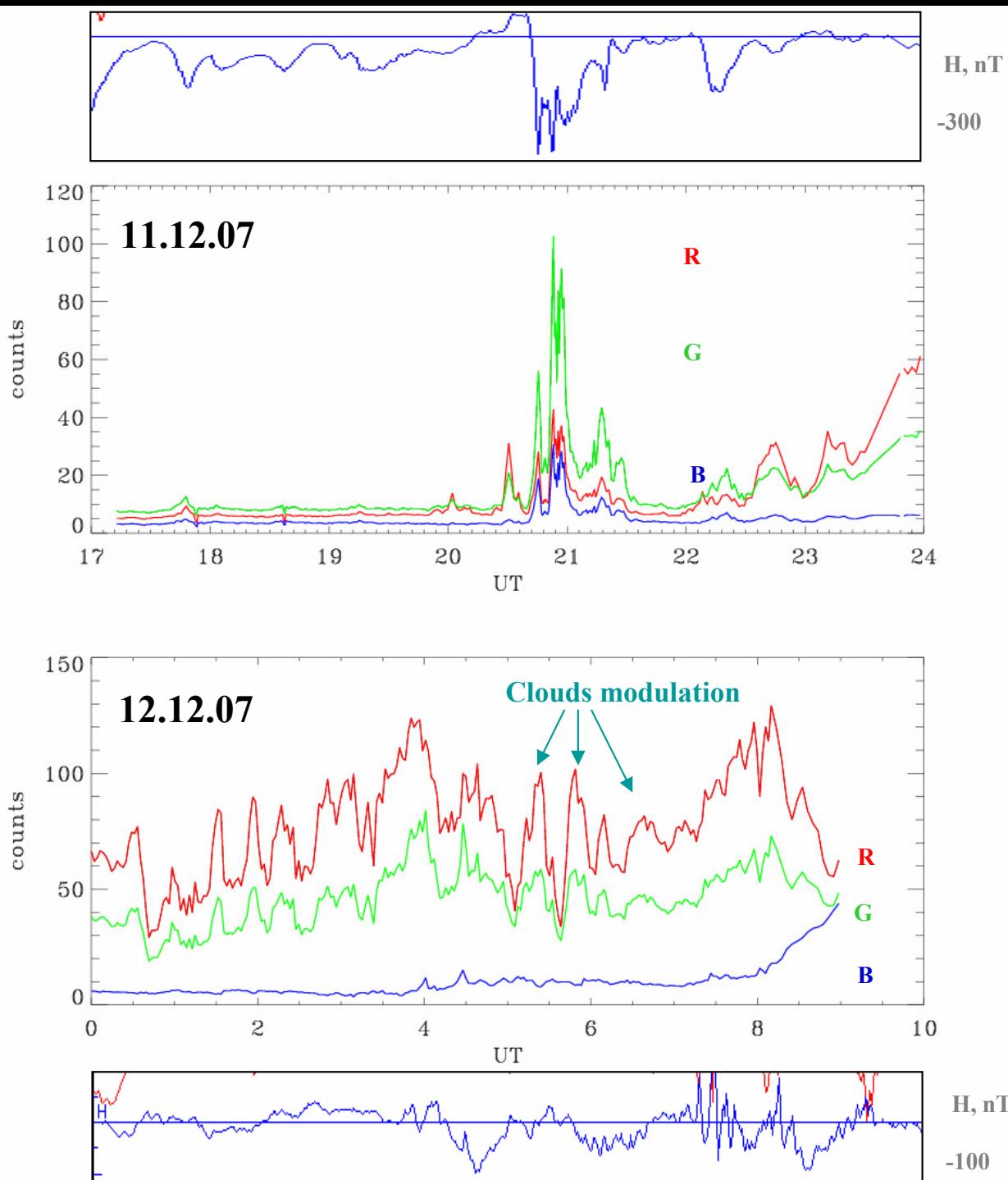
# ALFA/Svalbard



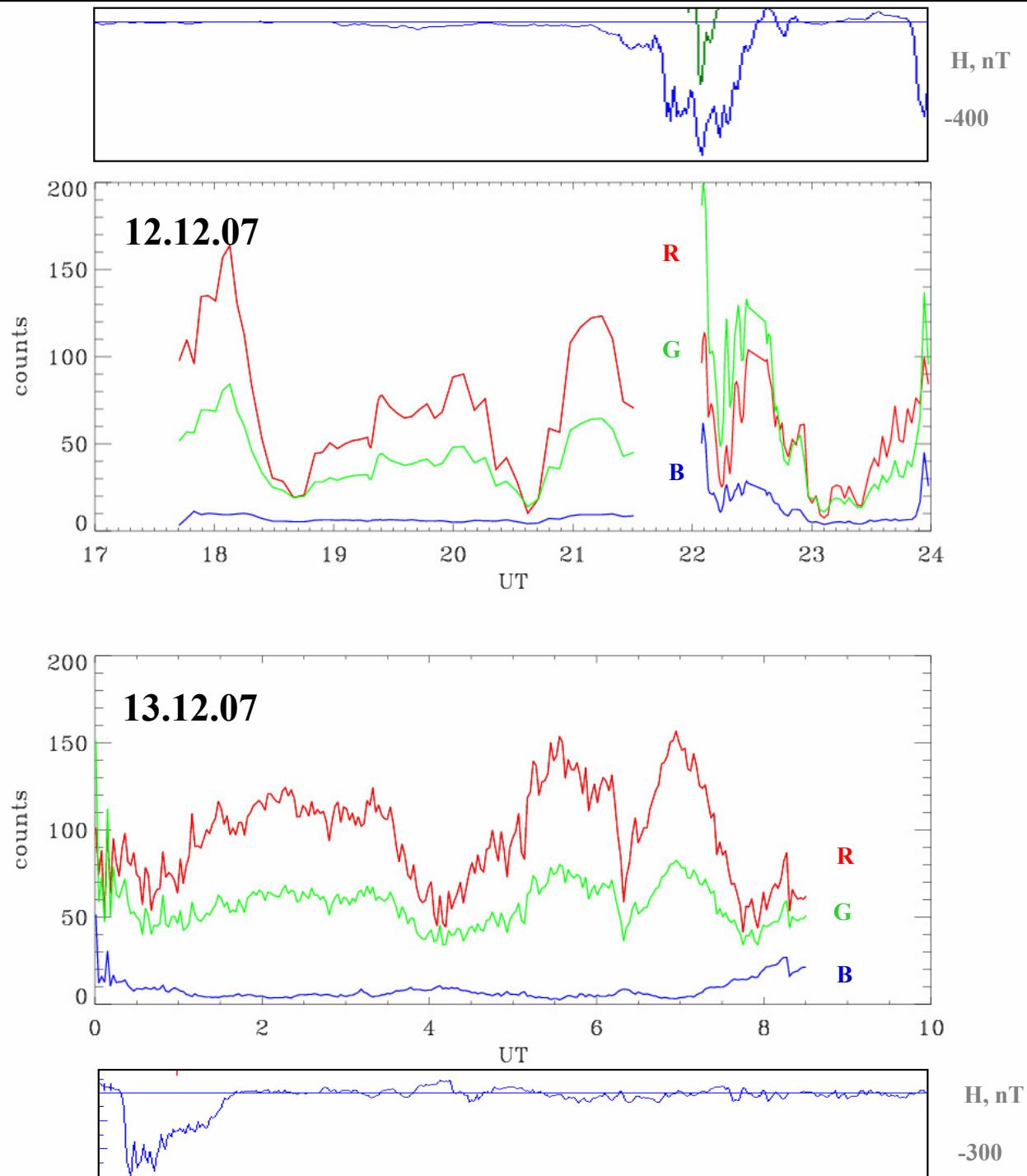
# ALFA/Svalbard



# ALFA/Svalbard



# ALFA/Svalbard



## ACE, Solar wind

