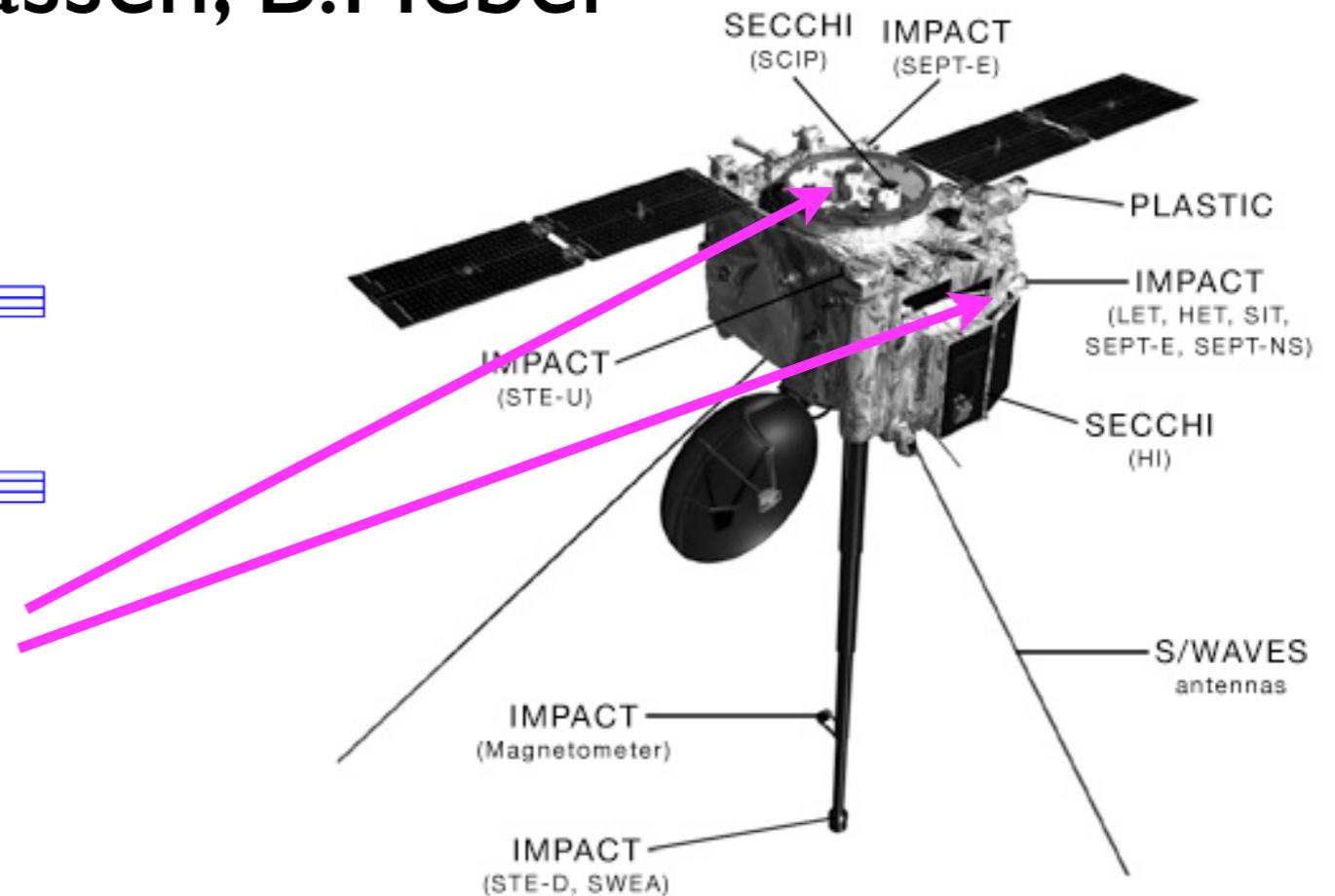
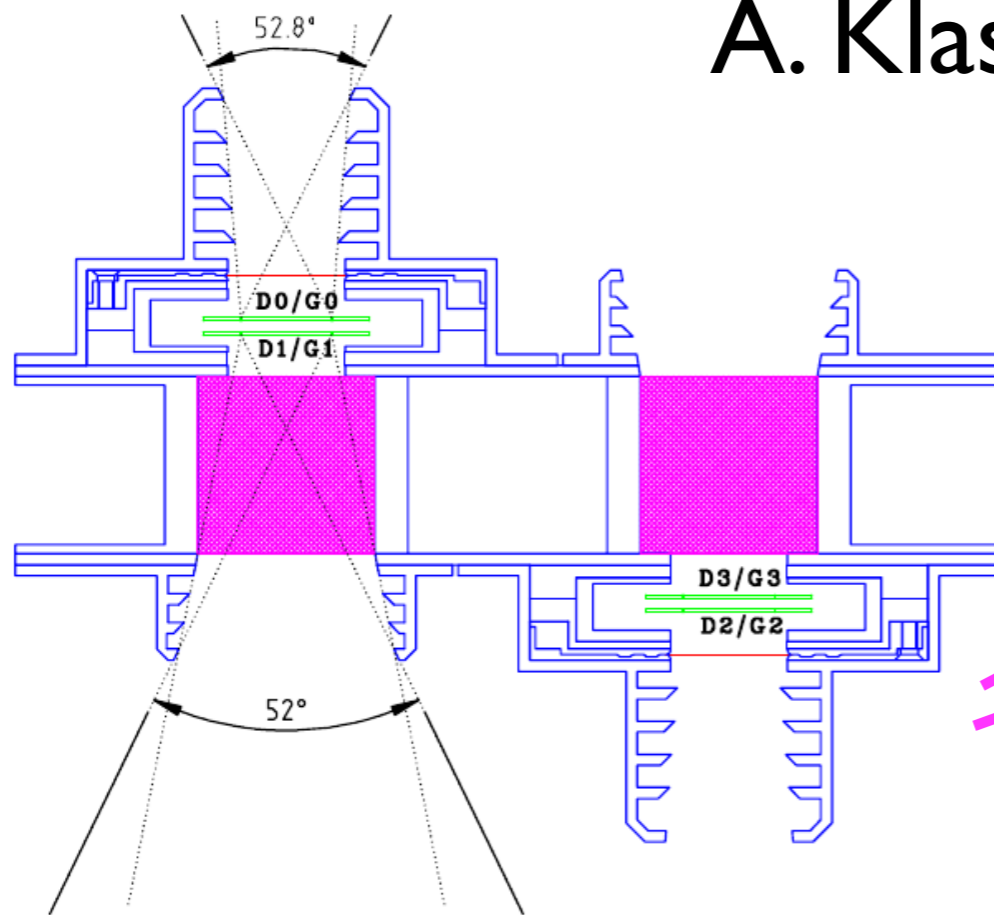


# STEREO/SEPT

## electron event list

N. Dresing, R. Gómez-Herrero,  
A. Klassen, B. Heber



[www2.physik.uni-kiel.de/stereo/](http://www2.physik.uni-kiel.de/stereo/)

# www2.physik.uni-kiel.de/stereo/

Solar Electron Events observed by the Solar Electron and Proton Telescope (SEPT) onboard STEREO

## STEREO SEPT Solar Electron Event list

List compiled by the IMPACT/SEPT team, University of Kiel, Germany

Updated June 3, 2010. Nominal Science coverage starts on January 17, 2007. Last data checked: March 31, 2010

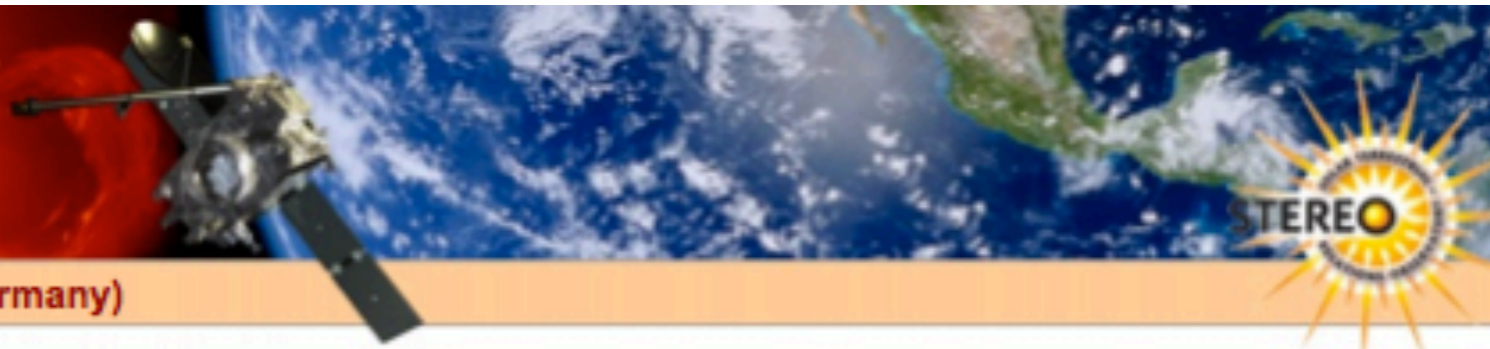
An event is defined as a significant increase in the 55-85 keV electron intensity (see onset criterion below). Candidates are checked by eye in order to discard false alerts due to instrumental background, ion contamination or events with obvious non-solar origin. Onset times are defined as the first time when the 1 minute averaged 55-85 keV electron flux exceeds the pre-event 50-min mean flux by at least 4 standard deviations and continues above that value for at least 2 consecutive intervals. In general the sunward-looking sensor is used for onset determination, however omnidirectional flux, 3 sigma threshold and/or longer time averages are used in cases with very poor statistics. The time resolution used for onset determination is shown in column 'dt'. Those events observed by both STEREO share the same event number, which is shown in red.

contact: [dresing@physik.uni-kiel.de](mailto:dresing@physik.uni-kiel.de)

Intensities in  $1/(\text{cm}^2 \text{ s sr MeV})$

|      | Event Number | s/c | Doy | Date       | Onset (UT) | dt (min) | Max (UT) 10 min av. | Max Intensity 10 min av. | Emax (keV) | Remarks   | Link to browse plot  |
|------|--------------|-----|-----|------------|------------|----------|---------------------|--------------------------|------------|---|----------------------|
| 2007 | 1            | A   | 023 | 2007-01-23 | 18:58      | 4        | 19:36               | 1.79E+02                 | 145        |   | <a href="#">Link</a> |
|      | 1            | B   | 023 | 2007-01-23 | 19:10      | 4        | 19:56               | 2.07E+02                 | 145        |   | <a href="#">Link</a> |
|      | 2            | A   | 024 | 2007-01-24 | 01:05      | 1        | 01:36               | 2.44E+02                 | 145        |   | <a href="#">Link</a> |
|      | 2            | B   | 024 | 2007-01-24 | 01:00      | 1        | 01:26               | 2.68E+02                 | 145        |   | <a href="#">Link</a> |
|      | 3            | A   | 024 | 2007-01-24 | 05:50      | 1        | 05:56               | 4.30E+02                 | 165        |   | <a href="#">Link</a> |
|      | 3            | B   | 024 | 2007-01-24 | 05:45      | 1        | 06:16               | 5.39E+02                 | 165        |   | <a href="#">Link</a> |
|      | 4            | A   | 139 | 2007-05-19 | 13:43      | 5        | 18:06               | 4.20E+02                 | 375        |   | <a href="#">Link</a> |
|      | 4            | B   | 139 | 2007-05-19 | 13:58      | 5        | 18:46               | 5.49E+02                 | 375        |   | <a href="#">Link</a> |
|      | 5            | A   | 140 | 2007-05-20 | ~6:00      | 1        | 10:26               | 3.05E+02                 | 225        | On the decay phase of previous event. Probably new injections on May 22           | <a href="#">Link</a> |
|      | 5            | B   | 140 | 2007-05-20 | ~6:00      | 1        | 11:16               | 2.92E+02                 | 225        | On the decay phase of previous event. Probably new injections on May 22           | <a href="#">Link</a> |
|      | 6            | A   | 143 | 2007-05-23 | 08:22      | 1        | 11:26               | 4.98E+02                 | 295        | Onset during ICME. Decay during CIR (ion contamination)                           | <a href="#">Link</a> |
|      | 6            | B   | 143 | 2007-05-23 | 08:12      | 1        | 13:06               | 4.95E+02                 | 295        | Onset during ICME. Decay during CIR (ion contamination)                           | <a href="#">Link</a> |
|      | 7            | A   | 207 | 2007-07-26 | 02:09      | 5        | 05:16               | 1.40E+01                 | 65         | Very small event - poor statistics  | <a href="#">Link</a> |
|      | 7            | B   | 207 | 2007-07-26 | 02:43      | 5        | 05:06               | 4.20E+01                 | 65         | Small event - poor statistics   | <a href="#">Link</a> |
|      | 8            | A   | 210 | 2007-07-29 | 02:16      | 10       | 06:56               | 3.34E+01                 | 200        | Small event   | <a href="#">Link</a> |
| 2008 | 9            | A   | 096 | 2008-04-05 | 16:30      | 1        | 16:46               | 2.53E+02                 | 225        | Only in A   | <a href="#">Link</a> |
|      | 10           | B   | 141 | 2008-05-20 | 14:03      | 1        | 14:06               | 4.28E+01                 | 150        | Only in B. Impulsive onset  | <a href="#">Link</a> |
|      | 11           | A   | 272 | 2008-09-28 | 22:36      | 10       | 02:16               | 3.49E+01                 |            | Uncertain event, slowly rising profile  | <a href="#">Link</a> |
|      | 12           | A   | 308 | 2008-11-03 | 23:54      | 3        | 00:56               | 1.72E+01                 | 150        | Impulsive   | <a href="#">Link</a> |
|      | 12           | B   | 308 | 2008-11-03 | 23:29      | 1        | 00:36               | 1.31E+02                 | 145        | Impulsive   | <a href="#">Link</a> |
|      | 13           | A   | 309 | 2008-11-04 | ?          | 10       | 06:56               | 3.18E+01                 | 145        | Impulsive, uncertain onset due to overlap with previous event and poor statistics | <a href="#">Link</a> |
|      | 13           | B   | 309 | 2008-11-04 | 04:10      | 1        | 06:16               | 2.11E+02                 | 145        | Impulsive, overlaps previous event.   | <a href="#">Link</a> |
|      | 14           | A   | 346 | 2008-12-11 | 09:54      | 5        | 10:36               | 1.47E+01                 | 145        | Small event, only in A  | <a href="#">Link</a> |
| 2009 | 15           | A   | 118 | 2009-04-28 | 11:43      | 5        |                     | 4.12E+01                 | 200        |   | <a href="#">Link</a> |
|      | 16           | A   | 122 | 2009-05-02 | 19:54      | 1        | 20:46               | 4.55E+02                 | 300        |   | <a href="#">Link</a> |
|      | 17           | A   | 125 | 2009-05-05 | 09:02      | 1        | 13:32               | 2.17E+02                 | 380        |   | <a href="#">Link</a> |
|      | 18           | B   | 185 | 2009-07-04 | 03:24      | 5        | 03:56               | 2.56E+01                 | 130        | Very small event - poor statistics  | <a href="#">Link</a> |
|      | 19           | A   | 199 | 2009-07-18 | 02:06      | 1        | 02:26               | 9.95E+01                 | 130        |   | <a href="#">Link</a> |

# STEREO/SEPT Data Pages



## STEREO/SEPT Browse Plots - IEAP - CAU Kiel (Germany)

Start date (DOY-YYYY or MM-DD-YYYY):

033-2010

Plot length:

1 day  10 days

Temporal resolution:<sup>1</sup>

1 min  10 min  1 hour

Spacecraft:<sup>1,2</sup>

Ahead  Behind

Telescope:<sup>1,3</sup>

Omnidirectional  
Sun  
Antisun  
North  
South

Type of plot:

Summary Ion Intensity  
Summary Electron Intensity  
Ion Spectrum  
Electron Spectrum

<< < Plot > >>

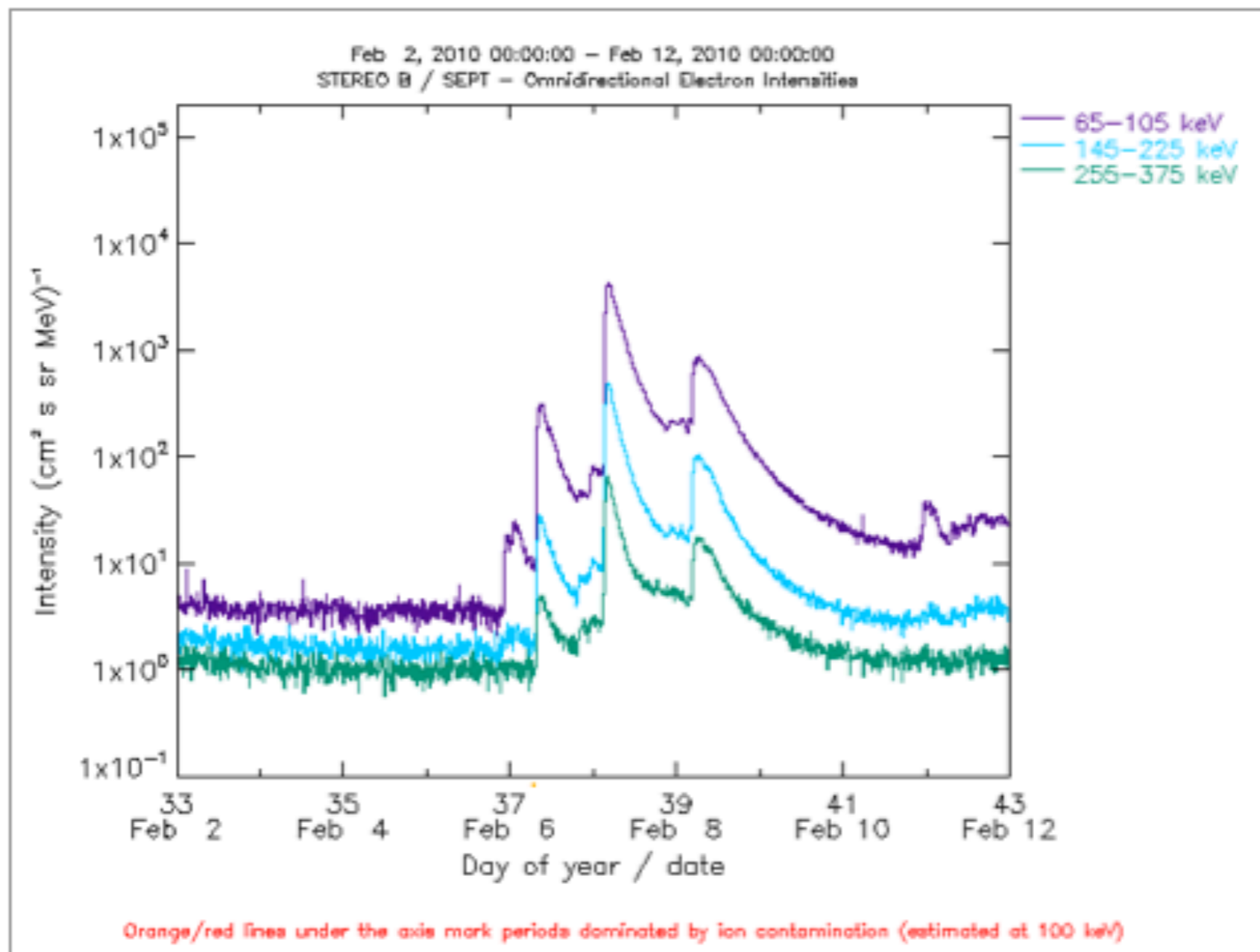
<sup>1</sup> Not applicable for orbit plots

<sup>2</sup> Not applicable for spectrum plots

<sup>3</sup> Not applicable for pad plots

Looking for the most recent data plots?

Please [click here](#)



Nominal data coverage starts on Jan 17, 2007. Last plot available: February 14, 2010

\*Warning: These data are not verified and should not be used for serious data analysis.\* P.A.D. plots are preliminary.

- Each event has been identified by a human
- As event we define a significant increase in the 55-85 keV electron intensity
- Onset times are defined as the first time when the 1min electron flux exceeds the pre-event 50min mean flux by at least 4 standard deviations and continues above that value for at least 2 consecutive intervals
- in case of events with poor statistics longer time averages are used to determine the onset times

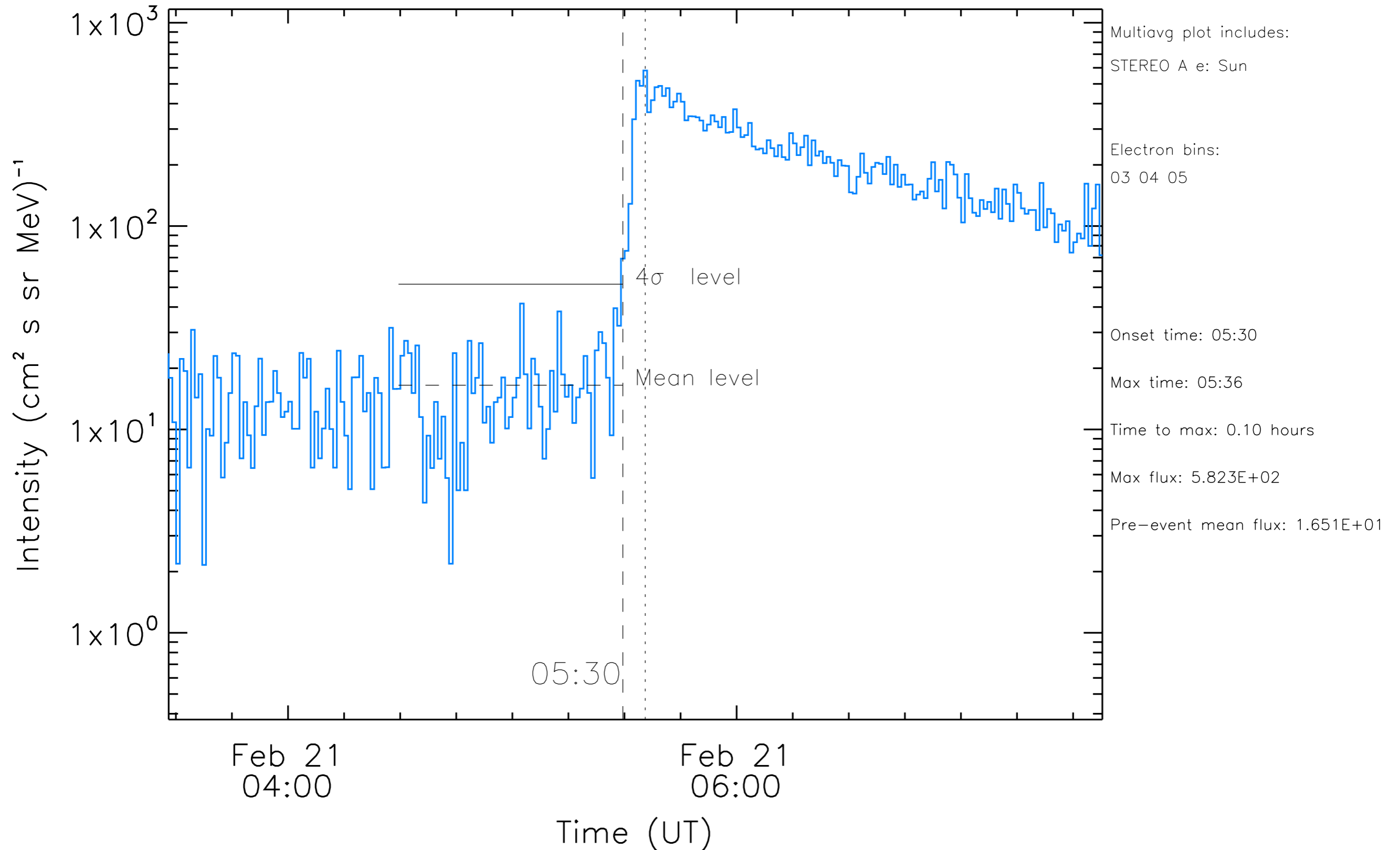
contact: [dresing@physik.uni-kiel.de](mailto:dresing@physik.uni-kiel.de)

Intensities in  $1/(\text{cm}^2 \text{ s sr MeV})$

|      | Event Number | s/c | Doy | Date       | Onset (UT) | dt (min) | Max (UT) 10 min av. | Max Intensity 10 min av. | Emax (keV) | Remarks   | Link to browse plot  |
|------|--------------|-----|-----|------------|------------|----------|---------------------|--------------------------|------------|---|----------------------|
| 2007 | 1            | A   | 023 | 2007-01-23 | 18:58      | 4        | 19:36               | 1.79E+02                 | 145        |   | <a href="#">Link</a> |
|      | 1            | B   | 023 | 2007-01-23 | 19:10      | 4        | 19:56               | 2.07E+02                 | 145        |   | <a href="#">Link</a> |
|      | 2            | A   | 024 | 2007-01-24 | 01:05      | 1        | 01:36               | 2.44E+02                 | 145        |   | <a href="#">Link</a> |
|      | 2            | B   | 024 | 2007-01-24 | 01:00      | 1        | 01:26               | 2.68E+02                 | 145        |   | <a href="#">Link</a> |
|      | 3            | A   | 024 | 2007-01-24 | 05:50      | 1        | 05:56               | 4.30E+02                 | 165        |   | <a href="#">Link</a> |
|      | 3            | B   | 024 | 2007-01-24 | 05:45      | 1        | 06:16               | 5.39E+02                 | 165        |   | <a href="#">Link</a> |
|      | 4            | A   | 139 | 2007-05-19 | 13:43      | 5        | 18:06               | 4.20E+02                 | 375        |   | <a href="#">Link</a> |
|      | 4            | B   | 139 | 2007-05-19 | 13:58      | 5        | 18:46               | 5.49E+02                 | 375        |   | <a href="#">Link</a> |
|      | 5            | A   | 140 | 2007-05-20 | ~6:00      | 1        | 10:26               | 3.05E+02                 | 225        | On the decay phase of previous event. Probably new injections on May 22           | <a href="#">Link</a> |
|      | 5            | B   | 140 | 2007-05-20 | ~6:00      | 1        | 11:16               | 2.92E+02                 | 225        | On the decay phase of previous event. Probably new injections on May 22           | <a href="#">Link</a> |
|      | 6            | A   | 143 | 2007-05-23 | 08:22      | 1        | 11:26               | 4.98E+02                 | 295        | Onset during ICME. Decay during CIR (ion contamination)                           | <a href="#">Link</a> |
|      | 6            | B   | 143 | 2007-05-23 | 08:12      | 1        | 13:06               | 4.95E+02                 | 295        | Onset during ICME. Decay during CIR (ion contamination)                           | <a href="#">Link</a> |
|      | 7            | A   | 207 | 2007-07-26 | 02:09      | 5        | 05:16               | 1.40E+01                 | 65         | Very small event - poor statistics  | <a href="#">Link</a> |
|      | 7            | B   | 207 | 2007-07-26 | 02:43      | 5        | 05:06               | 4.20E+01                 | 65         | Small event - poor statistics   | <a href="#">Link</a> |
|      | 8            | A   | 210 | 2007-07-29 | 02:16      | 10       | 06:56               | 3.34E+01                 | 200        | Small event   | <a href="#">Link</a> |
| 2008 | 9            | A   | 096 | 2008-04-05 | 16:30      | 1        | 16:46               | 2.53E+02                 | 225        | Only in A   | <a href="#">Link</a> |
|      | 10           | B   | 141 | 2008-05-20 | 14:03      | 1        | 14:06               | 4.28E+01                 | 150        | Only in B. Impulsive onset  | <a href="#">Link</a> |
|      | 11           | A   | 272 | 2008-09-28 | 22:36      | 10       | 02:16               | 3.49E+01                 |            | Uncertain event, slowly rising profile  | <a href="#">Link</a> |
|      | 12           | A   | 308 | 2008-11-03 | 23:54      | 3        | 00:56               | 1.72E+01                 | 150        | Impulsive   | <a href="#">Link</a> |
|      | 12           | B   | 308 | 2008-11-03 | 23:29      | 1        | 00:36               | 1.31E+02                 | 145        | Impulsive   | <a href="#">Link</a> |
|      | 13           | A   | 309 | 2008-11-04 | ?          | 10       | 06:56               | 3.18E+01                 | 145        | Impulsive, uncertain onset due to overlap with previous event and poor statistics | <a href="#">Link</a> |
|      | 13           | B   | 309 | 2008-11-04 | 04:10      | 1        | 06:16               | 2.11E+02                 | 145        | Impulsive, overlaps previous event.   | <a href="#">Link</a> |
|      | 14           | A   | 346 | 2008-12-11 | 09:54      | 5        | 10:36               | 1.47E+01                 | 145        | Small event, only in A  | <a href="#">Link</a> |
| 2009 | 15           | A   | 118 | 2009-04-28 | 11:43      | 5        |                     | 4.12E+01                 | 200        |   | <a href="#">Link</a> |
|      | 16           | A   | 122 | 2009-05-02 | 19:54      | 1        | 20:46               | 4.55E+02                 | 300        |   | <a href="#">Link</a> |
|      | 17           | A   | 125 | 2009-05-05 | 09:02      | 1        | 13:32               | 2.17E+02                 | 380        |   | <a href="#">Link</a> |
|      | 18           | B   | 185 | 2009-07-04 | 03:24      | 5        | 03:56               | 2.56E+01                 | 130        | Very small event - poor statistics  | <a href="#">Link</a> |
|      | 19           | A   | 199 | 2009-07-18 | 02:06      | 1        | 02:26               | 9.95E+01                 | 130        |   | <a href="#">Link</a> |

# Determination of the onset time

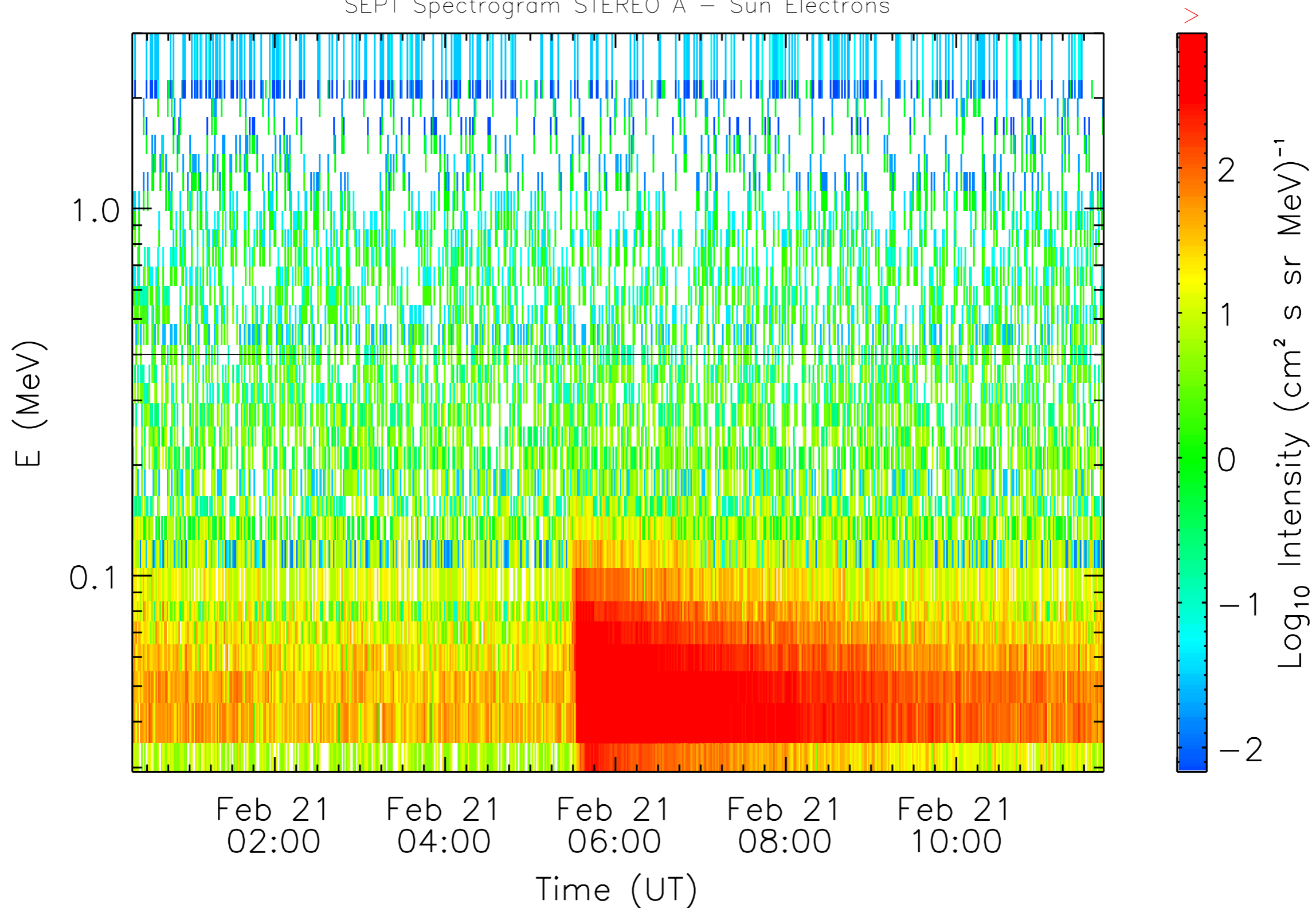
STEREO SEPT SCIENCE DATA (Feb 21, 2010 03:28:04 – Feb 21, 2010 07:37:49)



# Determination of the maximum energy

Feb 21, 2010 00:19:39 – Feb 21, 2010 11:43:52

SEPT Spectrogram STEREO A – Sun Electrons



# Audience:

## What is wanted/needed?

[www2.physik.uni-kiel.de/stereo/](http://www2.physik.uni-kiel.de/stereo/)

contact: [dresing@physik.uni-kiel.de](mailto:dresing@physik.uni-kiel.de)

Intensities in  $1/(\text{cm}^2 \text{ s sr MeV})$

|      | Event Number | s/c | Doy | Date       | Onset (UT) | dt (min) | Max (UT) 10 min av. | Max Intensity 10 min av. | Emax (keV) | Remarks   | Link to browse plot  |
|------|--------------|-----|-----|------------|------------|----------|---------------------|--------------------------|------------|---|----------------------|
| 2007 | 1            | A   | 023 | 2007-01-23 | 18:58      | 4        | 19:36               | 1.79E+02                 | 145        |   | <a href="#">Link</a> |
|      | 1            | B   | 023 | 2007-01-23 | 19:10      | 4        | 19:56               | 2.07E+02                 | 145        |   | <a href="#">Link</a> |
|      | 2            | A   | 024 | 2007-01-24 | 01:05      | 1        | 01:36               | 2.44E+02                 | 145        |   | <a href="#">Link</a> |
|      | 2            | B   | 024 | 2007-01-24 | 01:00      | 1        | 01:26               | 2.68E+02                 | 145        |   | <a href="#">Link</a> |
|      | 3            | A   | 024 | 2007-01-24 | 05:50      | 1        | 05:56               | 4.30E+02                 | 165        |   | <a href="#">Link</a> |
|      | 3            | B   | 024 | 2007-01-24 | 05:45      | 1        | 06:16               | 5.39E+02                 | 165        |   | <a href="#">Link</a> |
|      | 4            | A   | 139 | 2007-05-19 | 13:43      | 5        | 18:06               | 4.20E+02                 | 375        |   | <a href="#">Link</a> |
|      | 4            | B   | 139 | 2007-05-19 | 13:58      | 5        | 18:46               | 5.49E+02                 | 375        |   | <a href="#">Link</a> |
|      | 5            | A   | 140 | 2007-05-20 | ~6:00      | 1        | 10:26               | 3.05E+02                 | 225        | On the decay phase of previous event. Probably new injections on May 22           | <a href="#">Link</a> |
|      | 5            | B   | 140 | 2007-05-20 | ~6:00      | 1        | 11:16               | 2.92E+02                 | 225        | On the decay phase of previous event. Probably new injections on May 22           | <a href="#">Link</a> |
|      | 6            | A   | 143 | 2007-05-23 | 08:22      | 1        | 11:26               | 4.98E+02                 | 295        | Onset during ICME. Decay during CIR (ion contamination)                           | <a href="#">Link</a> |
|      | 6            | B   | 143 | 2007-05-23 | 08:12      | 1        | 13:06               | 4.95E+02                 | 295        | Onset during ICME. Decay during CIR (ion contamination)                           | <a href="#">Link</a> |
|      | 7            | A   | 207 | 2007-07-26 | 02:09      | 5        | 05:16               | 1.40E+01                 | 65         | Very small event - poor statistics  | <a href="#">Link</a> |
|      | 7            | B   | 207 | 2007-07-26 | 02:43      | 5        | 05:06               | 4.20E+01                 | 65         | Small event - poor statistics   | <a href="#">Link</a> |
|      | 8            | A   | 210 | 2007-07-29 | 02:16      | 10       | 06:56               | 3.34E+01                 | 200        | Small event   | <a href="#">Link</a> |
| 2008 | 9            | A   | 096 | 2008-04-05 | 16:30      | 1        | 16:46               | 2.53E+02                 | 225        | Only in A   | <a href="#">Link</a> |
|      | 10           | B   | 141 | 2008-05-20 | 14:03      | 1        | 14:06               | 4.28E+01                 | 150        | Only in B. Impulsive onset  | <a href="#">Link</a> |
|      | 11           | A   | 272 | 2008-09-28 | 22:36      | 10       | 02:16               | 3.49E+01                 |            | Uncertain event, slowly rising profile  | <a href="#">Link</a> |
|      | 12           | A   | 308 | 2008-11-03 | 23:54      | 3        | 00:56               | 1.72E+01                 | 150        | Impulsive   | <a href="#">Link</a> |
|      | 12           | B   | 308 | 2008-11-03 | 23:29      | 1        | 00:36               | 1.31E+02                 | 145        | Impulsive   | <a href="#">Link</a> |
|      | 13           | A   | 309 | 2008-11-04 | ?          | 10       | 06:56               | 3.18E+01                 | 145        | Impulsive, uncertain onset due to overlap with previous event and poor statistics | <a href="#">Link</a> |
|      | 13           | B   | 309 | 2008-11-04 | 04:10      | 1        | 06:16               | 2.11E+02                 | 145        | Impulsive, overlaps previous event.   | <a href="#">Link</a> |
|      | 14           | A   | 346 | 2008-12-11 | 09:54      | 5        | 10:36               | 1.47E+01                 | 145        | Small event, only in A  | <a href="#">Link</a> |
| 2009 | 15           | A   | 118 | 2009-04-28 | 11:43      | 5        |                     | 4.12E+01                 | 200        |   | <a href="#">Link</a> |
|      | 16           | A   | 122 | 2009-05-02 | 19:54      | 1        | 20:46               | 4.55E+02                 | 300        |   | <a href="#">Link</a> |
|      | 17           | A   | 125 | 2009-05-05 | 09:02      | 1        | 13:32               | 2.17E+02                 | 380        |   | <a href="#">Link</a> |
|      | 18           | B   | 185 | 2009-07-04 | 03:24      | 5        | 03:56               | 2.56E+01                 | 130        | Very small event - poor statistics  | <a href="#">Link</a> |
|      | 19           | A   | 199 | 2009-07-18 | 02:06      | 1        | 02:26               | 9.95E+01                 | 130        |   | <a href="#">Link</a> |