Substorm Zoo

A browser-based tool for research, teaching and social data analysis

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Why Zoo?

The web site is called Substorm Zoo, because the aim is to present events in a variety of data series. In a sense, these events are the animals of heliospheric wild life. Hence the zoo.

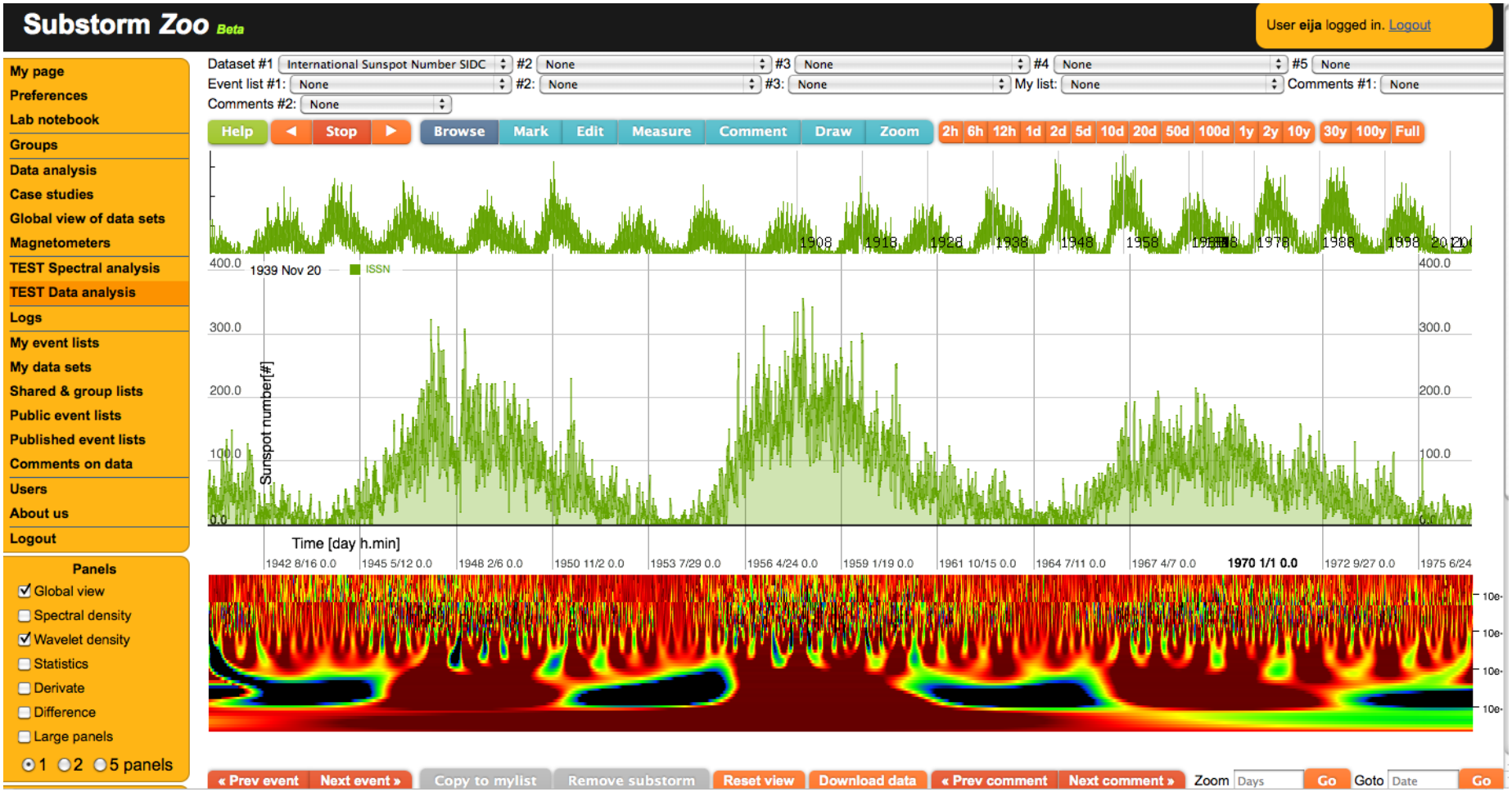
The goal

Substorm Zoo provides a browser-based tool for time-series analysis of data. Particular interest is in the identification of geo-effective and other important structures.

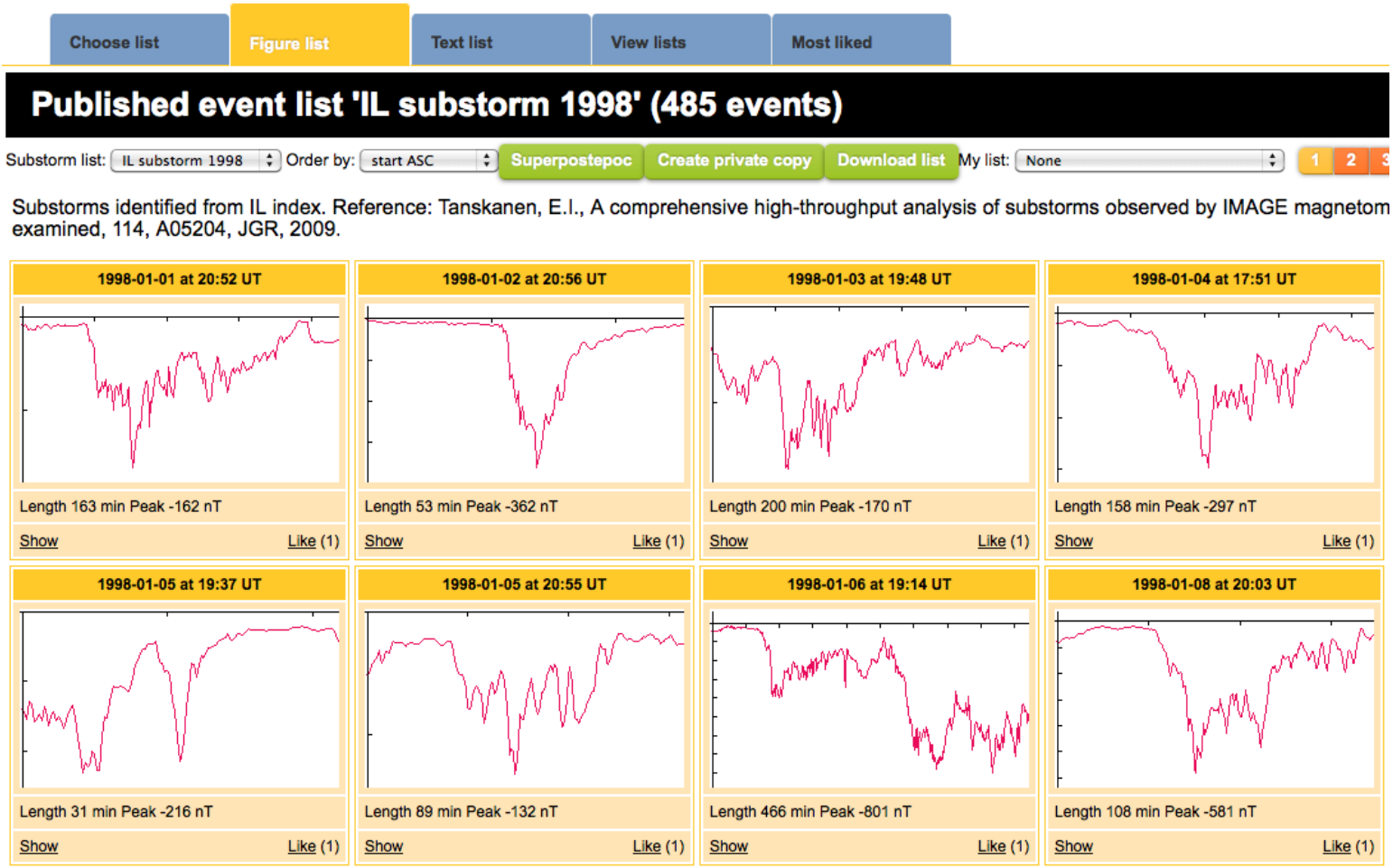
The web site enables the social data analysis by providing a possibility to create discussion groups, share event lists, upload own events, share the comments to the data etc.

Online tools for science

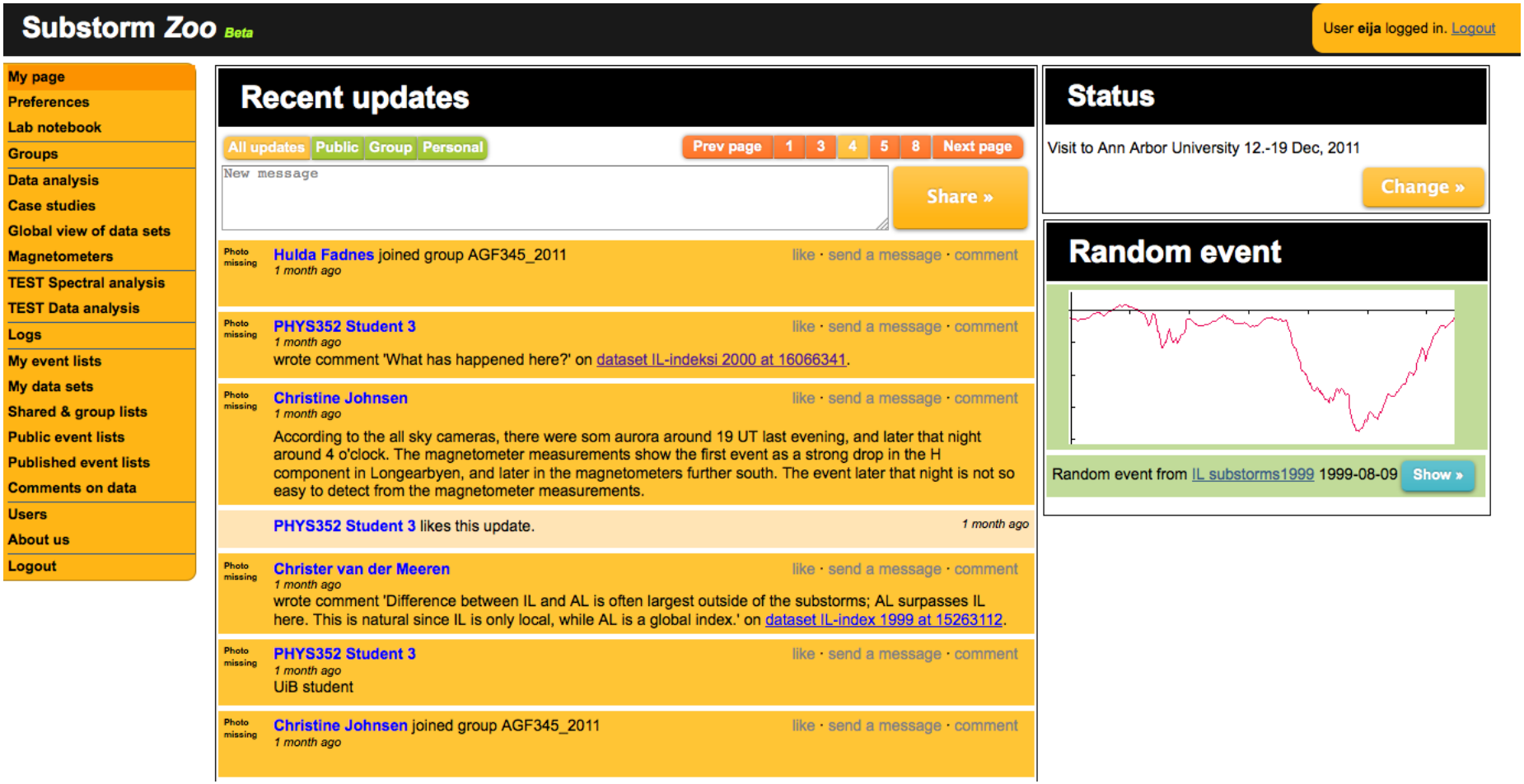
Powerful analysis methods



Libraries of pre-identified events



Tools for social data analysis



Discussion groups

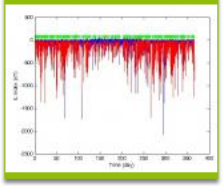
Case5nov2001 (Owner)
Examines the spacecraft charging on 5th Nov 2001.

Guo_etal_study (Owner)
Statistical substorm study in IMAGE UT-sector.

Bugs
Squash the bugs!

Workshop13April (Owner)
Workshop on 13th April 2012 at FMI about data analysis of magnetic measurements.

Elja's test group (Owner)
No description



COST TOSCA (Owner)
A discussion group for COST ES-1005 action called TOSCA.

HISSI FMI (Owner)
Academy project HISSI

Science questions (Owner)
A set of science questions

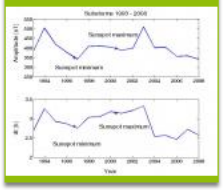
Aalto space weather (Owner)
Basics of space weather and observational methods.

Thierry´s group (Owner)
This group is intended for educational purposes in University of Orleans.

Jim´s group (Owner)
This discussion group is to generated to deliver science questions and tasks to the students.

UNIVERSITY OF MICHIGAN

FP7_elja (Owner)
Discussion about the FP7 project led by ET.



Hands-on-data (Owner)
Hands-on-data course during the COST School Sun2Climate.

TOSCA

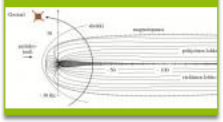
Sun2Climate_test (Owner)
No description. Please update.

Russian community
Discussion of the Substorm Zoo data.

RamboRainbow
Charades in the solar storms

Sun2climate school
Discussion group of Sun2climate school

Space Climate/HY2013 (Owner)
Avaruusilmasto Helsingin yliopistolla 2013



NASA GSFC group (Owner)
NASA Goddard SFC

NASA

AGF-345 2013 (Owner)
Substorm course in UNIS

UNIS

Tools for public outreach

Tools for teaching

Substorm Zoo *Beta*

- My page
- Preferences
- Lab notebook
- Groups
- Data analysis
- Case studies
- Global view of data sets
- Magnetometers
- Realtime analysis
- TEST Data analysis
- Logs
- My event lists
- My data sets
- Shared & group lists
- Public event lists
- Published event lists
- Comments on data
- Users
- About us
- Logout

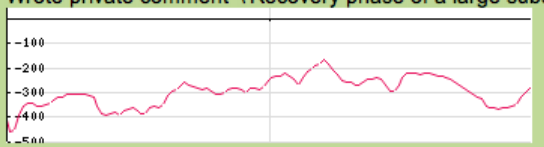
Lab notebook of Eija Tanskanen

Failed to log in on 2012-5-22 13:28.12.
24 seconds ago (2012-05-22 13:28:17)

Wrote private comment '\'What is this?\'' on dataset IL index at 1998-10-03 23:04.

1 hour ago (2012-05-22 12:21:45)

Wrote private comment '\'Recovery phase of a large substorm.\'' on dataset IL index at 2003-08-24 20:38.



1 hour ago (2012-05-22 11:49:59)

Failed to log in on 2012.5.21 13.49.19.
23 hours ago (2012-05-21 13:49:24)

Created a new event list ClusterNSC03_05il.
6 days ago May 16, 2012 (2012-05-16 13:00:27)

Created a new event list ICMEbegin96_2011il.
6 days ago May 16, 2012 (2012-05-16 12:57:48)

Created a new event list ICMEbegin96_2011.
6 days ago May 16, 2012 (2012-05-16 12:57:06)

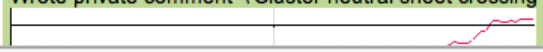
Created a new event list ClusterNSC2005_sc1.
6 days ago May 16, 2012 (2012-05-16 12:16:07)

Created a new event list ClusterNSC2004_sc1.
6 days ago May 16, 2012 (2012-05-16 12:13:53)

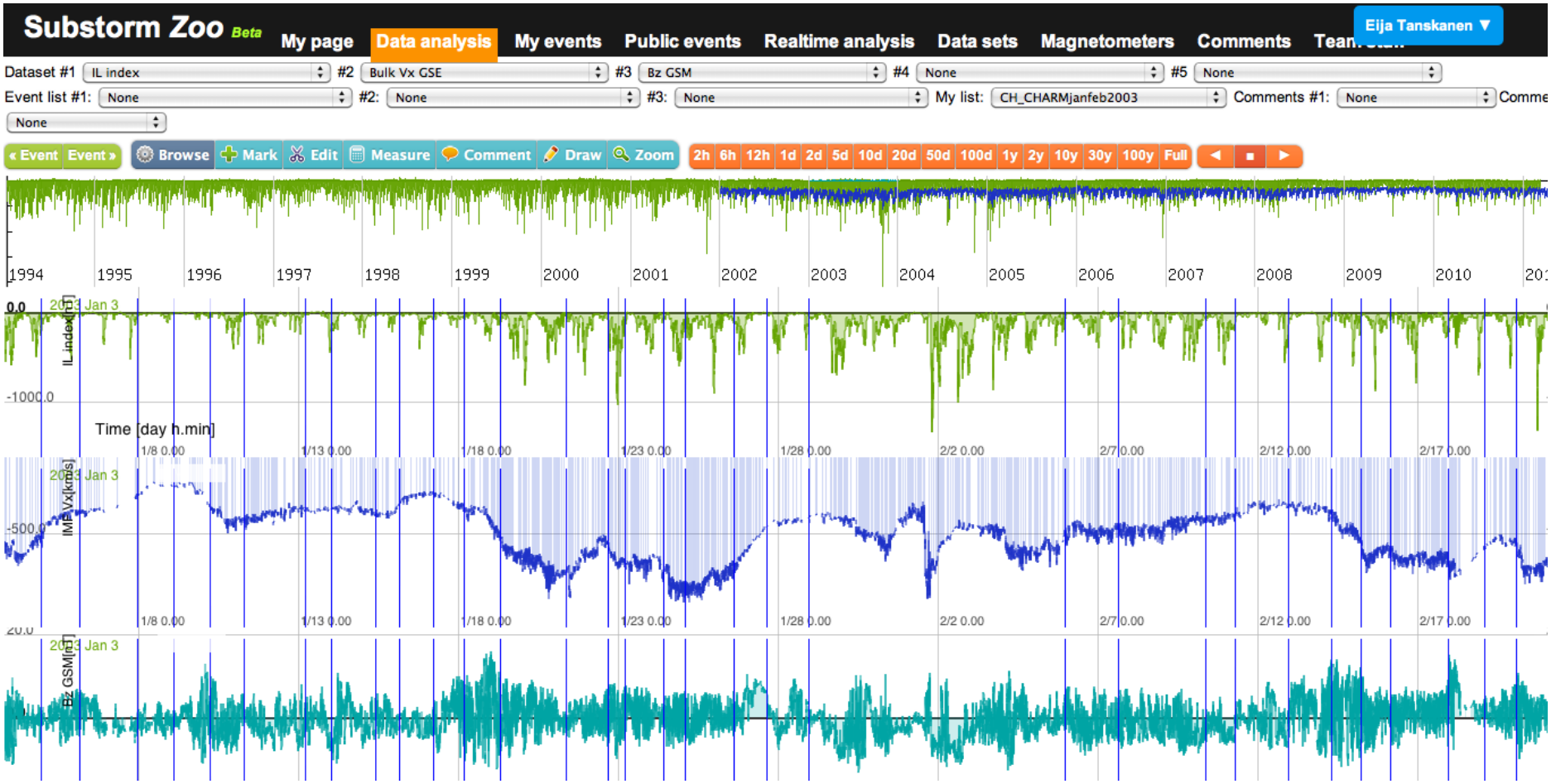
Created a new event list Cluster_sc1.
6 days ago May 16, 2012 (2012-05-16 12:09:49)

Created a new event list Cluster_test.
6 days ago May 16, 2012 (2012-05-16 11:32:30)

Wrote private comment '\'Cluster neutral sheet crossing ends.\'' on dataset IL index at 2004-10-15 15:52.

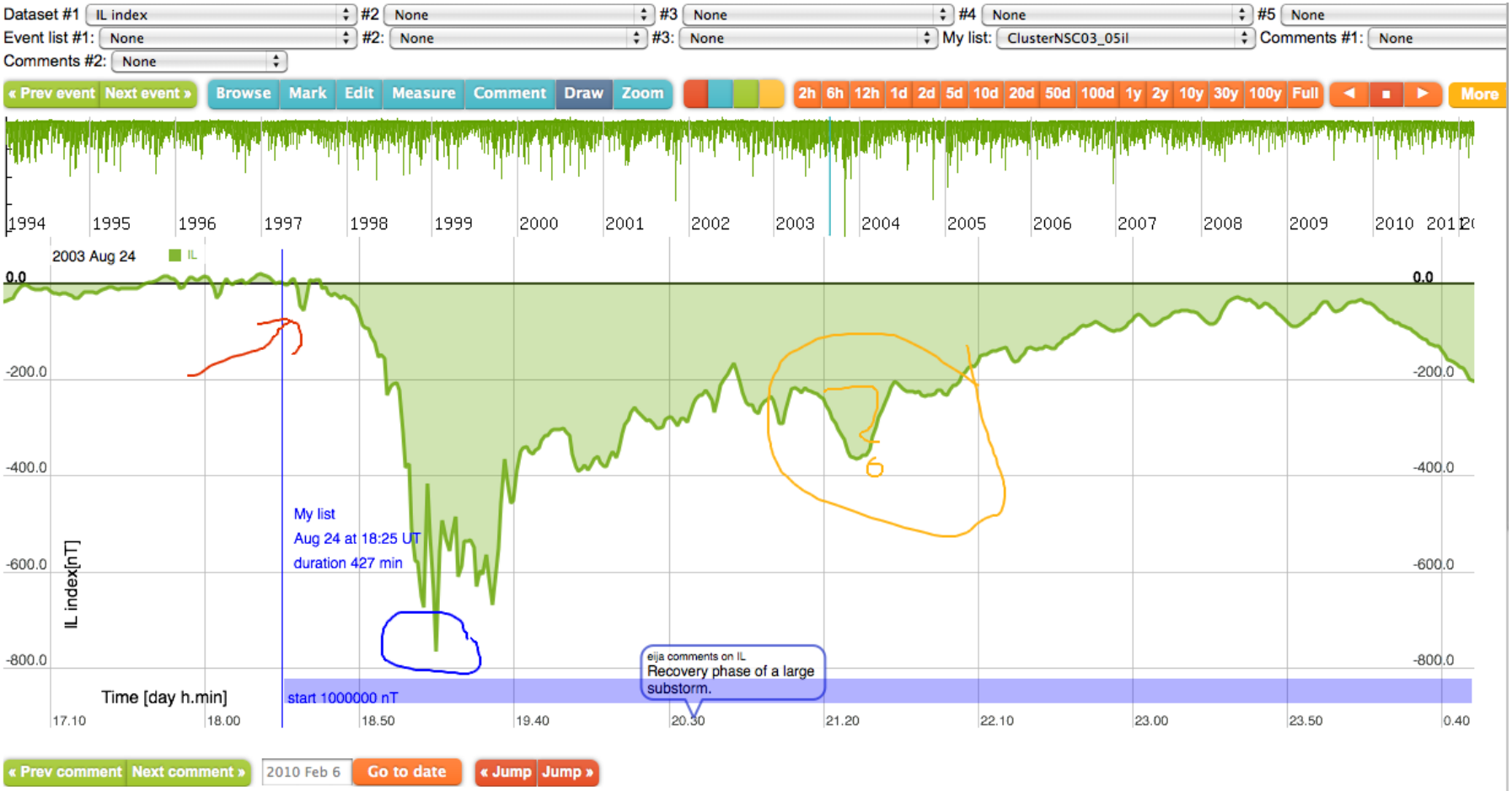


HELIO collaboration

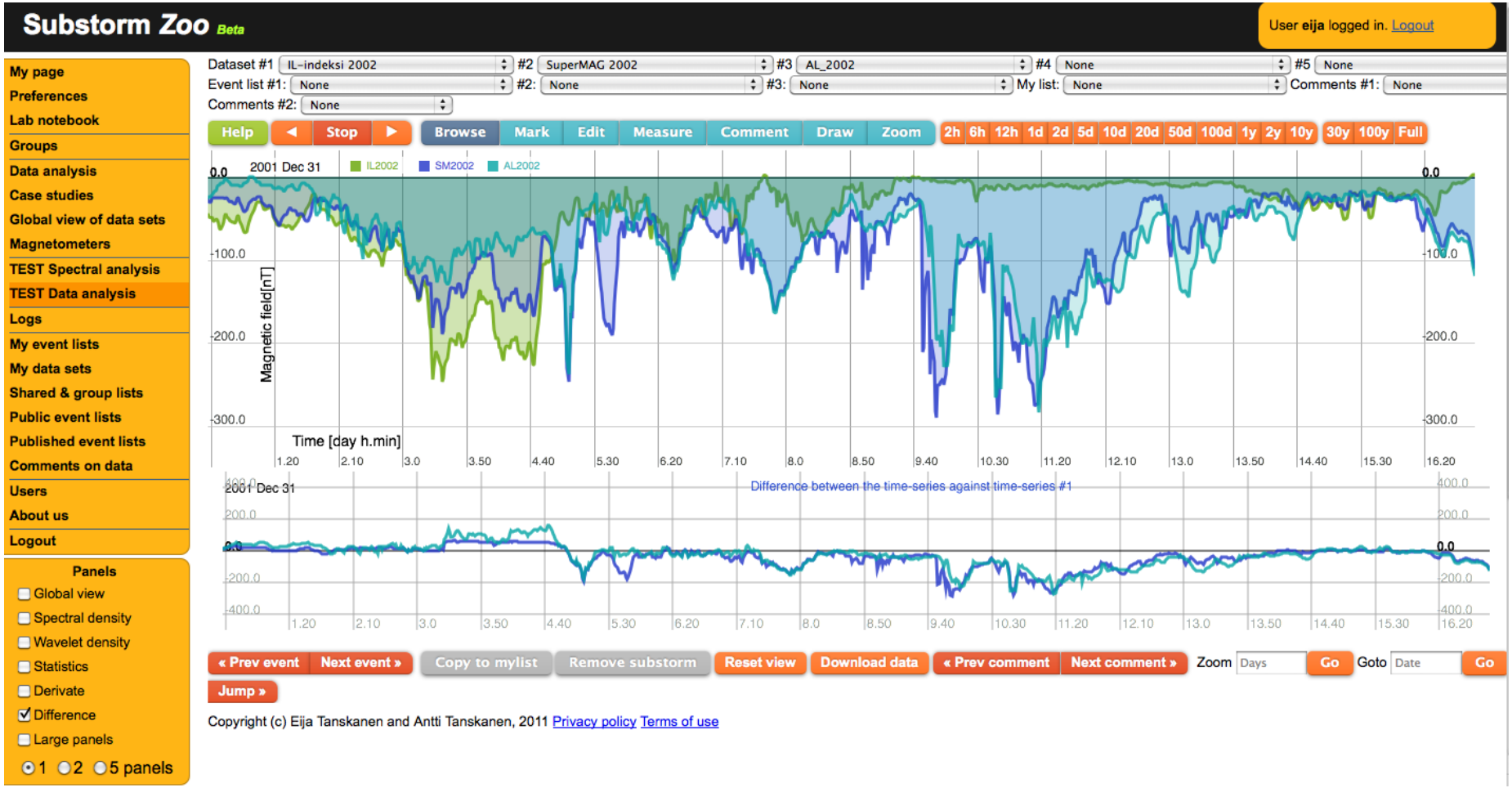


Vertical blue lines: CH, CHARM list

Browse, mark, edit, measure, comment and draw modes

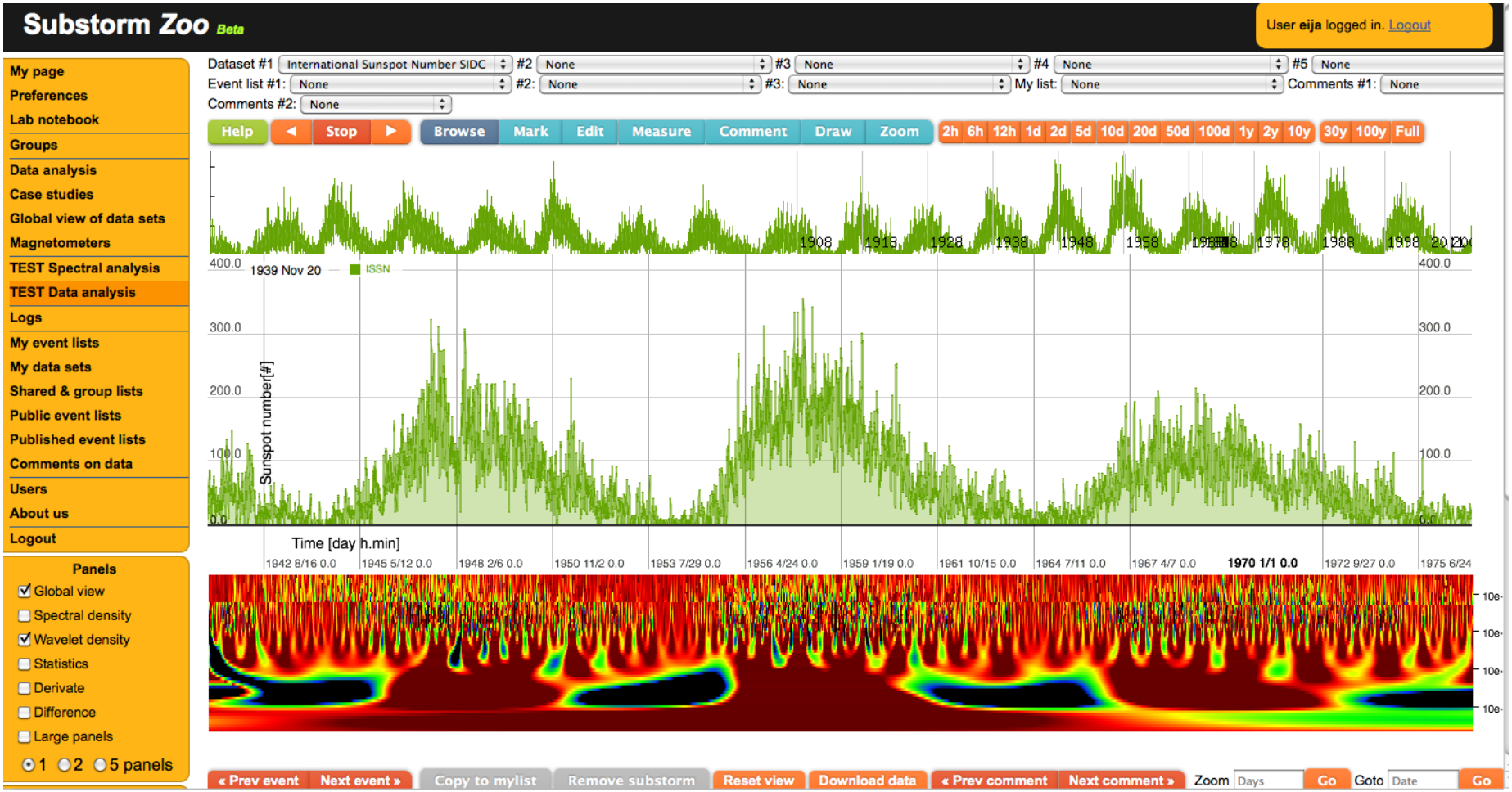


Easy comparison of data sets



Powerful analysis methods

Tools for analysis of long-time series



Tools for statistical analysis

Choose list | Figure list | Text list | Most liked

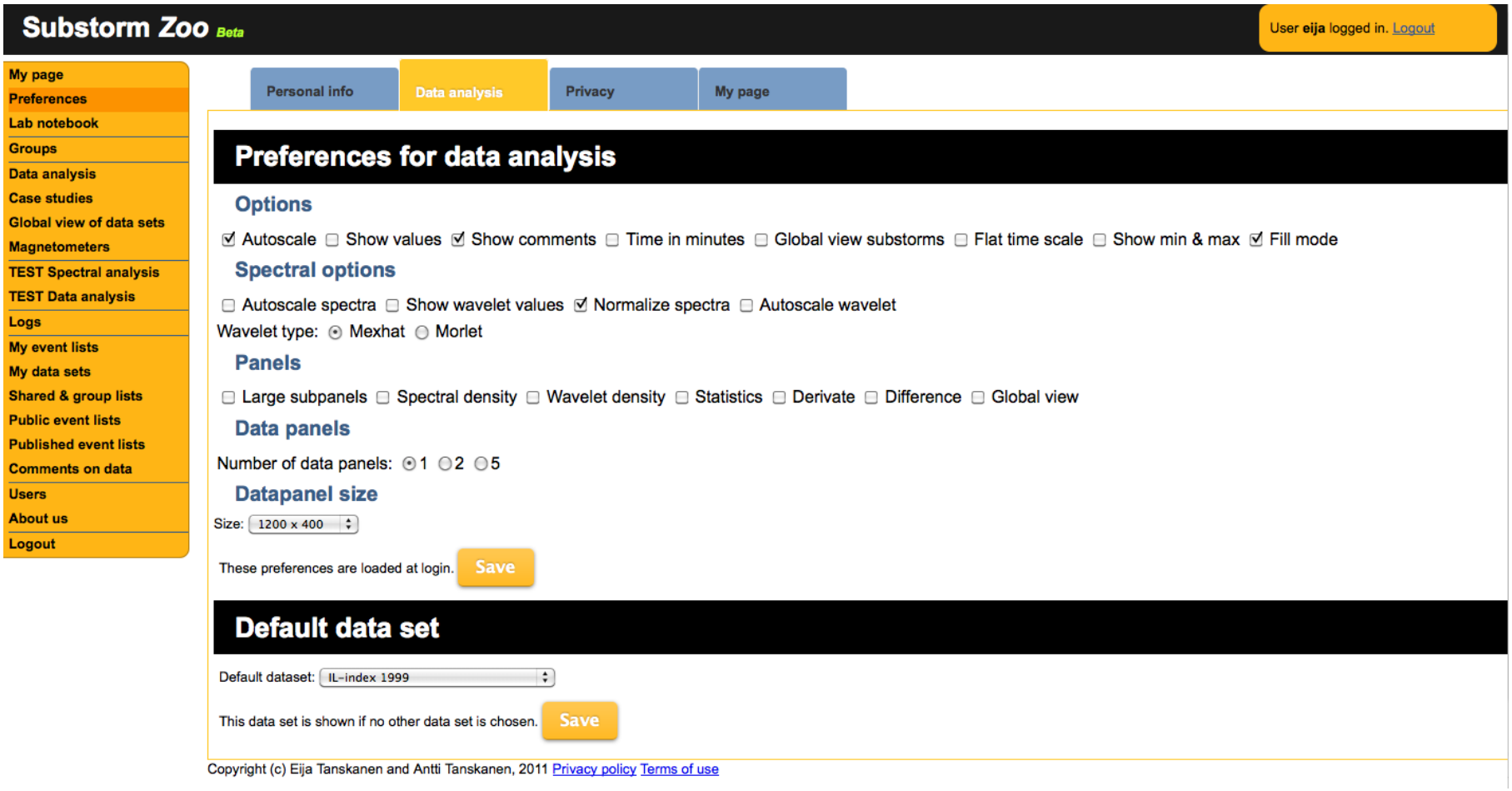
Published list 'IL substorms2003' (699 events)

List: IL substorms2003 Display: 100 Download list Create private copy Superpostepoc My list: ClusterNSC03_05il 1 2 3 7 Next page

Substorms identified from IL index. Reference: Tanskanen, E.I., A comprehensive high-throughput analysis of substorms observed by IMAGE magnetometer network: years 1993 - 2003 examined, 114, A05204, JGR, 2009.

ID	Start date	Start (UT)	Onset (UT)	Peak (UT)	End (UT)	Length (min)	Start value (nT)	End value (nT)	Peak value (nT)	Drop value (nT)	Type	Likes	Actions	
14564	2003-01-01 at 20:09 UT	20.09	20.27	23.22	00.40	271	-11	-86	-447	88	0	Show	Copy to mylist	Like
14565	2003-01-02 at 23:21 UT	23.21	23.43	00.10	01.35	134	-23	-46	-233	86	0	Show	Copy to mylist	Like
14566	2003-01-03 at 16:00 UT	16.00	16.05	16.19	17.30	90	-122	-178	-905	83	0	Show	Copy to mylist	Like
14567	2003-01-03 at 19:52 UT	19.52	20.36	20.46	22.56	184	-35	-107	-571	84	0	Show	Copy to mylist	Like
14568	2003-01-03 at 23:14 UT	23.14	23.19	01.22	03.00	226	-56	-164	-595	84	0	Show	Copy to mylist	Like
14569	2003-01-04 at 16:02 UT	16.02	16.25	16.52	17.23	81	-91	-62	-319	82	0	Show	Copy to mylist	Like
14570	2003-01-04 at 18:46 UT	18.46	19.03	19.38	20.46	120	-55	-98	-498	90	0	Show	Copy to mylist	Like
14571	2003-01-04 at 21:53 UT	21.53	22.23	23.25	02.12	259	-26	-57	-287	81	0	Show	Copy to mylist	Like
14572	2003-01-05 at 20:05 UT	20.05	20.16	21.45	22.21	136	-62	-97	-527	81	0	Show	Copy to mylist	Like
14573	2003-01-06 at 21:11 UT	21.11	21.43	22.32	23.57	166	-11	-74	-374	82	0	Show	Copy to mylist	Like
14574	2003-01-07 at 17:48 UT	17.48	18.04	18.25	19.09	81	-44	-95	-528	81	0	Show	Copy to mylist	Like
14575	2003-01-07 at 20:38 UT	20.38	21.05	22.11	22.50	132	-8	-34	-177	83	0	Show	Copy to mylist	Like
14576	2003-01-08 at 21:29 UT	21.29	21.39	21.54	23.14	105	-21	-25	-127	93	0	Show	Copy to mylist	Like
14577	2003-01-10 at 17:47 UT	17.47	18.12	23.37	00.53	426	-49	-84	-442	90	0	Show	Copy to mylist	Like
14578	2003-01-11 at 2:23 UT	02.23	02.48	02.58	03.00	37	-30	-196	-216	84	0	Show	Copy to mylist	Like

Kinetic scrolling and customized views



Substorm Zoo

Request a user account

Name:

E-mail:

Organization:

A brief description of the intended use:

Submit user account request

Welcome to Substorm Zoo

Our mission is to provide a best-in-class, browser-based tool for time-series analysis of data derived from magnetometer measurements, satellites and other instrument that provide time-series data of interest to the space science community. The aim is to provide a tool that is best suited for preliminary analyses, rapid data checks and comparisons of various data sets, not for all-encompassing comprehensive analyses.

In addition to data analysis, the website allows identification of important events in the data. The website is dedicated to the analysis of zoo of magnetospheric substorms and other meaningful events. For an account, please see More information.

To the login page! | More information

http://www.substormzoo.org

www.substormzoo.org

Acknowledgements and courtesy to:
Substorm Zoo co-founder and co-developer, Antti Tanskanen, EK, Finland
MIRACLE/IMAGE of IL index.
Kyoto World Data Center of AL and Dst indices.
SuperMAG initiative of SLM index.
SIDC Belgiumand NOAA of sunspot numbers.
DTU and Tromsø about individual magnetometer data.
ESA for Cluster data.
Oulu and Kiel universities of cosmic ray data.
ICME lists to E. Kilpua, I. Richardson.
CDAWeb, iSWA and
Illustration of the Sun and planets by Elsa Tanskanen.
We warmly thank all the other data providers not mentioned above and last, but not least
ALL THE USERS ABOUT THE USEFUL COMMENTS AND SUGGESTIONS!