Report from the MiniMax24 Working Group of ISEST/MiniMax24
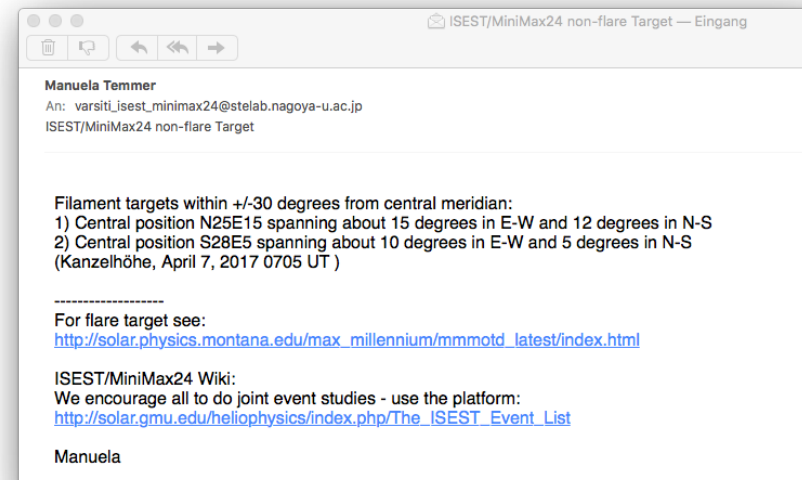
Update ...

ISEST/MiniMax 2017 Workshop – September 18-22, 2017 Jeju, Republic of Korea

Diversity of VARSITI

- The MiniMax24 email list reaches more than 500 participants from more than 60 countries.

- Huge platform of experts in different fields of solar and heliospheric physics – we communicate daily!

- Emails are sent by a team of about 7 persons (UNI Graz, Kanzelhöhe Observatory, UNI Zagreb)

Daily email from MiniMax24

- 1. Non-flare Target – selected by the MiniMax24 campaign team (large coronal holes close to central meridian, large filaments within +/- 30° of central meridian likely to erupt)

- 2. Information on current flare activity (MaxMillenium)

- 3. We encourage the community to initiate joint event studies*

⌂ ISEST/MiniMax24 non-flare Target — Eingang

Manuela Temmer
An: varsiti_isest_minimax24@stelab.nagoya-u.ac.jp
ISEST/MiniMax24 non-flare Target

Filament targets within +/-30 degrees from central meridian:
1) Central position N25E15 spanning about 15 degrees in E-W and 12 degrees in N-S
2) Central position S28E5 spanning about 10 degrees in E-W and 5 degrees in N-S
(Kanzelhöhe, April 7, 2017 0705 UT)

For flare target see:
http://solar.physics.montana.edu/max_millennium/mmmotd_latest/index.html

ISEST/MiniMax24 Wiki:
We encourage all to do joint event studies - use the platform:
http://solar.gmu.edu/heliophysics/index.php/The_ISEST_Event_List

Manuela

- **NEW!** 4. We plan on using MiniMax promoting CCMC scoreboard for CME foreacasting.

*ISEST wiki platform

http://solar.gmu.edu/heliophysics/index.php/The_ISEST_Event_List
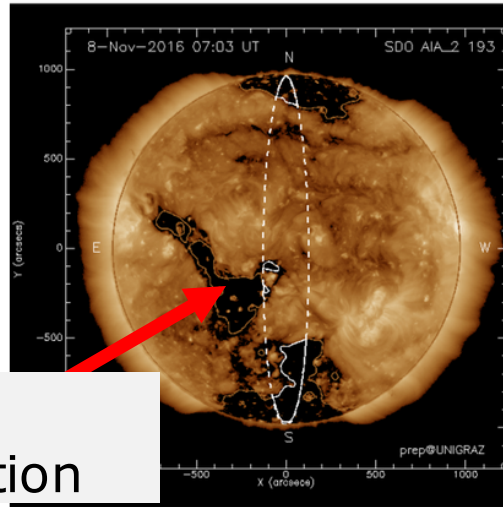
Solar wind HSS forecast as part of ESA-SSA

Critical SW speed

Comparison to measurements (ACE, DSCOVR)

CH detection

See also
swe.uni-graz.at

Current users of this service are, ESA-SSA (H-ESC), MiniMax24, AFFECTS (Uni Göttingen, V. Bothmer), AWARE (DTU, S. Vennerstroem) DBM model (Uni Zagreb, B. Vrsnak).

ESWF and AWARE – CME/HSS detection in real-time :: testing phase
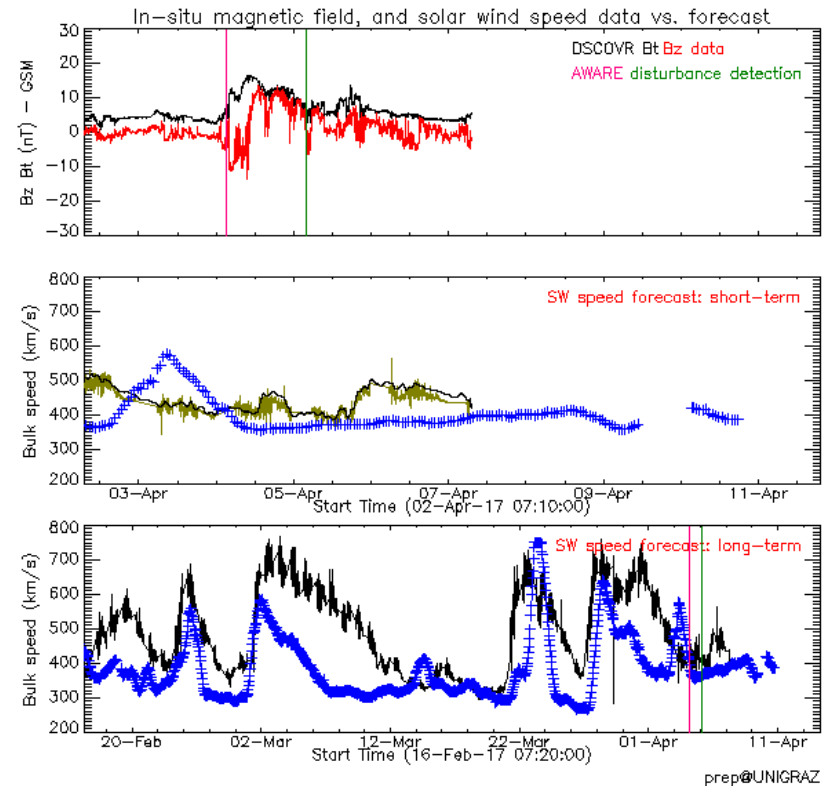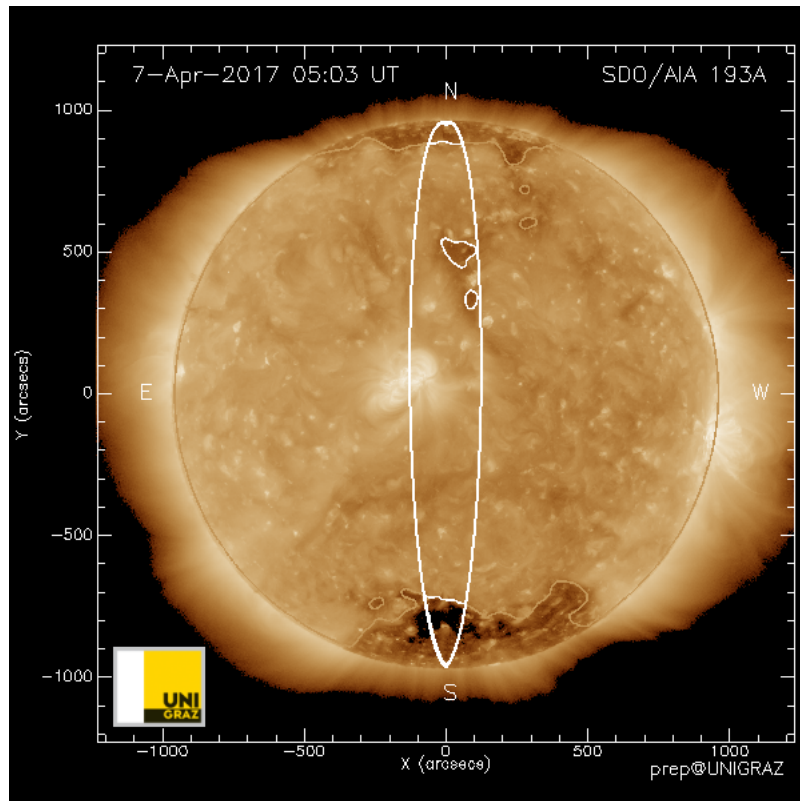
We aim to increase our service and provide automatic CME and HSS arrival warnings in real-time (graphic), using the tool AWARE developed by Susanne Vennerstroem from DTU (Denmark). This will be part of ESA Period 3. Testing can be viewed under: **swe.uni-graz.at**

Automatic filament detection at KSO:
in operation for MiniMax24 since summer 2015

The filament detection algorithm established at Kanzelhöhe Observatory (Pötzi et al., 2015) automatically gives the position and size of filaments that is used for the MiniMax24 forecasting.

cesar.kso.ac.at/sniv_data/filaments/2015/20150810/20150810.php

Filament data for 20150810

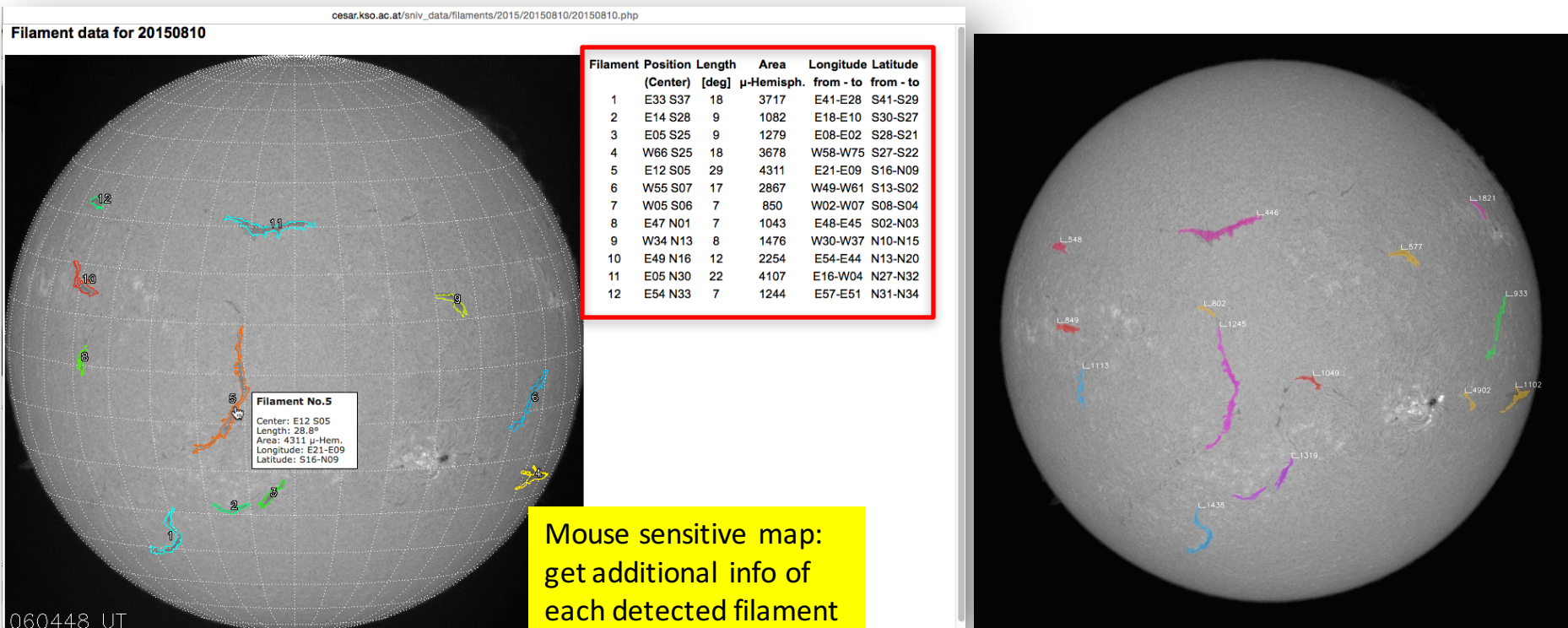| Filament	Position (Center)	Length [deg]	Area µ-Hemisph.	Longitude from - to	Latitude from - to
1	E33 S37	18	3717	E41-E28	S41-S29
2	E14 S28	9	1082	E18-E10	S30-S27
3	E05 S25	9	1279	E08-E02	S28-S21
4	W66 S25	18	3678	W58-W75	S27-S22
5	E12 S05	29	4311	E21-E09	S16-N09
6	W55 S07	17	2867	W49-W61	S13-S02
7	W05 S06	7	850	W02-W07	S08-S04
8	E47 N01	7	1043	E48-E45	S02-N03
9	W34 N13	8	1476	W30-W37	N10-N15
10	E49 N16	12	2254	E54-E44	N13-N20
11	E05 N30	22	4107	E16-W04	N27-N32
12	E54 N33	7	1244	E57-E51	N31-N34

Filament No.5

Center: E12 S05
Length: 28.8°
Area: 4311 µ-Hem.
Longitude: E21-E09
Latitude: S16-N09

060448 UT

Mouse sensitive map: get additional info of each detected filament

http://cesar.kso.ac.at/sniv/filaments.php

Service: support of observing campaigns

Our service for supporting observing campaigns is not very often used – we therefore encourage observing campaign teams to make use of it!

We provide daily target locations especially for Hinode HOPs that requires target coordinates with + 48h and +72h in advance

Filament target within ±30 degrees from central meridian.

Central position N09W08 spanning about 10 degrees in E-W and 5 degrees in N-S
(Udaipur Observatory, May 21 2014 0700UT)

Central position S37W21 spanning about 10 degrees in E-W and 5 degrees in N-S
(Udaipur Observatory, May 21 2014 0700UT)

Central position S23E30 spanning about 10 degrees in E-W and 10 degrees in N-S
(Udaipur Observatory, May 21 2014 0700UT)

Support for THEMIS-IHOP campaign on prominences (N.Labrosse, B.Schmieder):
Derotated filament target (central part) for
+24h (May 22 07:00 UT): N09W22 (solar x=370", solar y=150")
                        S37W35 (solar x=-540", solar y=-520")
                        S22E19 (solar x=-280", solar y=-330")
+48h (May 23 07:00 UT): N09W35 (solar x=540", solar y=150")
                        S37W45 (solar x=550", solar y=-560")
                        S22E05 (solar x=90", solar y=-330")
+72h (May 24 07:00 UT): N09W50 (solar x=710", solar y=140")
                        S37W59 (solar x=650", solar y=-550")
                        S22W08 (solar x=100", solar y=-350")

For flare target see:
http://solar.physics.montana.edu/max_millennium/mmmotd_latest/index.html

ISEST/MiniMax24 Wiki:
We encourage all to do joint event studies - use the platform:
http://igam07ws.uni-graz.at/mediawiki/index.php?title=Main_Page:Event_Studies

Cheers,
Kamalam

MiniMax24 – *come-into-contact-platform*

researcher

observer

WG MiniMax24

forecaster

observing campaigns

WG4 – joint event studies
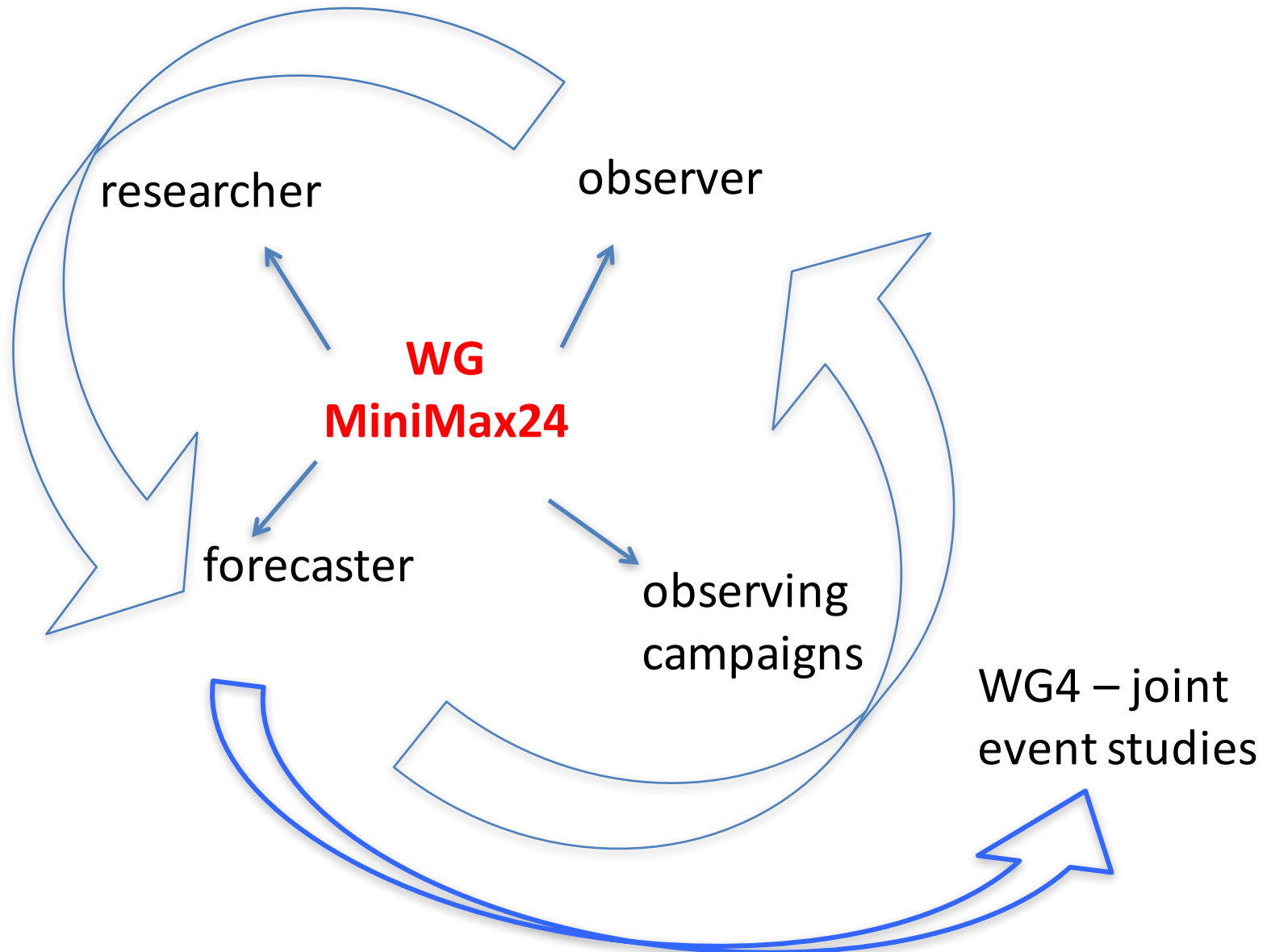
Improvements on providing non-flare targets and future plans

Since October 2016 the solar wind forecasting (ESWF) is fully operational and part of ESA's Expert Service Center for *Heliospheric Weather* (http://swe.uni-graz.at).

The HSS forecast algorithm, used by MiniMax24 and CME forecast methods, currently applies the ICME/HSS disturbance detection algorithm AWARE (contact: S. Vennerstroem).

The automatic algorithm from Kanzelhöhe Observatory for filament detection is actively running for MiniMax24. A statistical evaluation of the method will be given in the near future (Pötzi et al., 2017, in preparation). See http://cesar.kso.ac.at.

A great community effort to study and better understand solar-terrestrial processes!