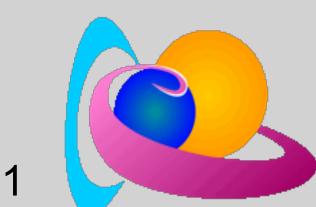


Space Weather Helioviewer



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Main goal of the project

This two years ESA GSTP project aims to enhance the capabilities of the Helioviewer system (JHelioviewer² and Helioviewer.org³) in the field of space weather research and operations.

It will achieve that by incorporating new datasets (images, timelines, models), new user interaction capabilities (3D), and new features in the area of detection and modeling

of solar phenomena with space weather implications. The enhancements will be available in 2015. Switch to Incorporate new datasets 3D support: difference - Rotate the image freely - Overlay multiple images at their true images location (SOHO) - Hide/unhide outer corona - Solar grids - Show magnetic fieldlines Zoom in Zoom out Zoom to <u>F</u>it Reset Camera Pan Zoom Box Rotate Track ^{Corona} 2D 3D SDO Cut-Outs Movie Controls → More Options Layers 🎇 SWAP 174 2013/10/24 08:21:18 🔼 AIA 171 2013/10/24 08:17:23 🛕 📗 🔻 📗 🕡 📗 📗 🕌 Add Layer Adjustments Internal Plugins Quality: Opacity: Selected Layer: 4/4 🗘 50% 🗘 Sharpen: 1 1 1 1 0%

Space weather events

Contrast:

Channels: 🗹 Red 🔃 Green 🗹 Blue

HEK Events

▼ 🔲 🥃 HEK (0/303)

► ■ M Active Region (0/67)

► 🔲 🚳 Coronal Hole (0/10)

► 🗌 🚷 Emerging Flux (0/59)

► 🔲 🙃 Flare (0/147)

Model\Plugins

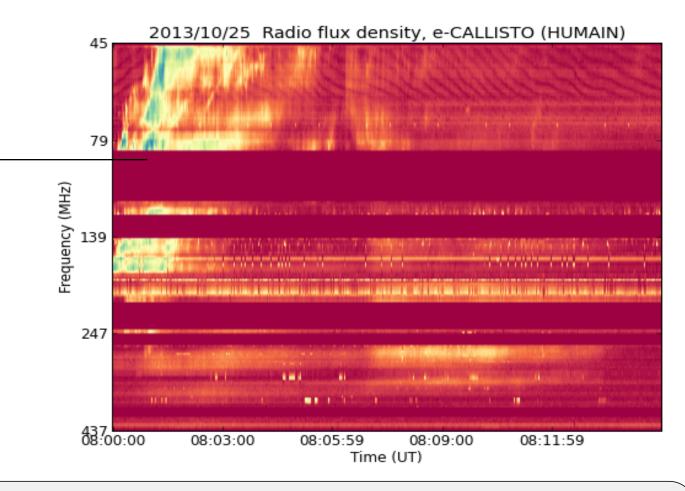
Color: SDO-AIA 171 Å

- Tag timelines with events
- Indicate events on disk

Plot space weather relevant timeline data **Show spectral radio** image data

2013-10-24 08:46:28

2013-10-25 03:25:42 2013-10-25 10:17:08



📥 Add layer

Plot 1: SWHV

XRSA

2013-20-24 10:53:53 2013-10-24 13:01:18

2013-10-25 17:08:34

Clip: Custom

(x, y) = (-3662", 369") | JPIP: ■ | Meta: ✓ OpenGL 3.0

Heterogeneous API for quicklook data

2013-10-24 04:31:39

2013-10-24 13:42:51

201/3-10-24 06:39:03

2/013-10-24 20:34:17



1D data

Timelines API to interact with ODI

- GOES - Lyra
- EVE proxies for GOES



2D data:

log(W m^-2)

-8.76 2013-10-24 00:16:49 2013-10-24 02:24-1

Period: 2013/10/24 - 2013/10/25 2

2013-10-24 00:00:00 2013-10-24 06:51:25

-4.30 -4.65 😾

-4.99

-**5**.33 --5.67

-6.02 ·

-6.36°

-6.70 · -7.05

-7.39

-7.73 ·

API to interact with helioviewer.org through esa-jpip server

- Halpha (GONG)
- Magnetograms (GONG)
 Backside images (GONG)
 SWAP (PROBA2)
- VSM (SOLIS)



3D data:

API to display solar magnetic fieldlines dynamically



Solar event data

API to interact with **HEK** database

Contact

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References & affiliations

- (1) Royal Observatory of Belgium
- (2) www.JHelioViewer.org
- (3) www.HelioViewer.org

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