Scoreboard

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European Space Weather Symposium (ESWS): 2-6 November 2020

SEP Scoreboard

https://ccmc.gsfc.nasa.gov/challenges/sep.php

- Planning for the SEP Scoreboard started in 2016 (led by BIRA-IASB, GSFC, UK Met Office)
- Builds upon the flare scoreboard and CME arrival time scoreboard
- Automated system; model developers can routinely upload their predictions to an anonymous ftp. Forecast data will be parsed and stored in a database which is accessible to anyone via an API
- SEP forecasts can be roughly divided into three categories:

- The SEP scoreboard will focus on real-time forecasts (first and second categories) and will collect: proton intensity profile, threshold crossing probability, onset time, and duration.
- The SEP scoreboard is part of the ISWAT SEP Validation Team that also focuses on historical comparisons, particularly for those physics-based models in the third category that are not ready or relevant for real-time modeling.

SEP Models in the Community

Continuous/ Probabilistic

Continuous Probabilistic:
SWPC
UK Met Office
MAG4 (Falconer)
FORSPEF (NOA)
SPRINTS

Continuous Profile:
PREDICCS (UNH)

Non Near Real-Time/ Complex

STAT: MAS+EPREM (PSI and UNH)
EPREM+ENLIL (UNH + Odstricil)
iPATH (Li)
SEP modeling w/EUHFORIA

SEPMOD (Luhmann)
SPARX (Dalla, Marsh)
SWMF FLAMPA (UMich)
Zhang Model (FIT)

Solar Event Triggered

Flare:
AFRL PPS
COMESEP SEPForecast (BIRA)
ASPECS/FORSPEF (NOA)
SPARX (Dalla, Marsh)

Flare and CME:
COMESEP SEPForecast
ASPECS/FORSPEF (NOA)
SOLPENCO (Arans)

Flare and proton intensity:
UMASEP (Núñez)
Boubrahimi model

CME:
SEPSTER (Richardson)
St. Cyr (Mauna Loa CME)

Electron intensity:
HESPERIA REleASE

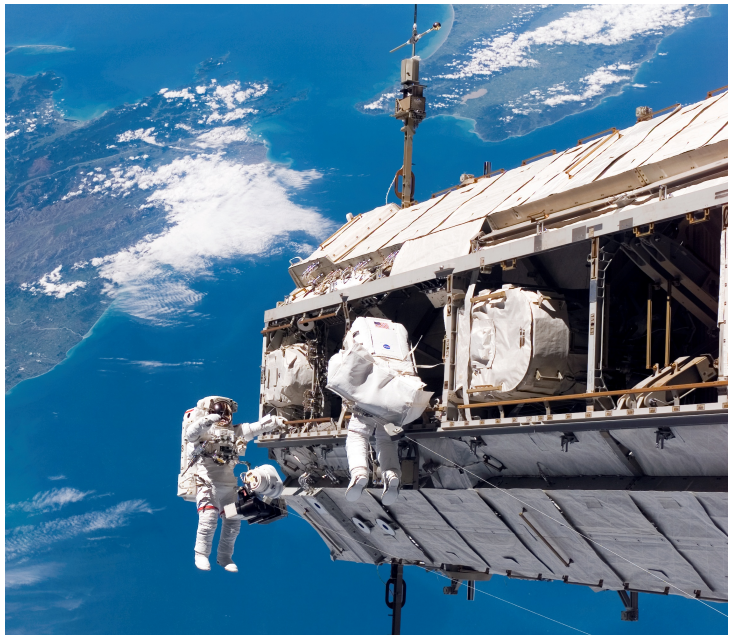
Flare, Radio, H-alpha:
SWPC PPM

Flare, Radio:
ESPERTA (Laurenza)

Radio:
AER SEP Model (Winter)

CCMC SEP Scoreboard Collaboration with NASA Johnson Space Center: Astronaut Safety

- In 2018 CCMC started a multi year project (ISEP) with NASA Space Radiation Analysis Group to **transition research Solar Energetic Particle models to operations**: including MAG4, UMASEP, RELeASE, SEPSTER, SEPMOD, STAT, iPATH, ASPECS
- These **models were chosen by SRAG** based on their operational requirements including
  - Can it run in real-time?
  - Is the input data available in near real-time?
  - Some degree of documented performance
- Models transitioned, and **SEP Scoreboard displays** built by CCMC will be used operationally by SRAG for human missions beyond LEO starting in 2022.



SEP Scoreboard Goals

- Uniform JSON input format and scoreboard displays so multiple models can be viewed and compared together
- Displays should be easy for space weather operators to understand and take action on, but contain all necessary information

SEP Forecast Types

For different energy ranges/thresholds models may forecast:

- Continuous probability timeseries of threshold crossing
- Continuous intensity timeseries
- Peak intensity for event
- Peak intensity with the next x hours
- and others

Proton Energy Range Predictions by Model

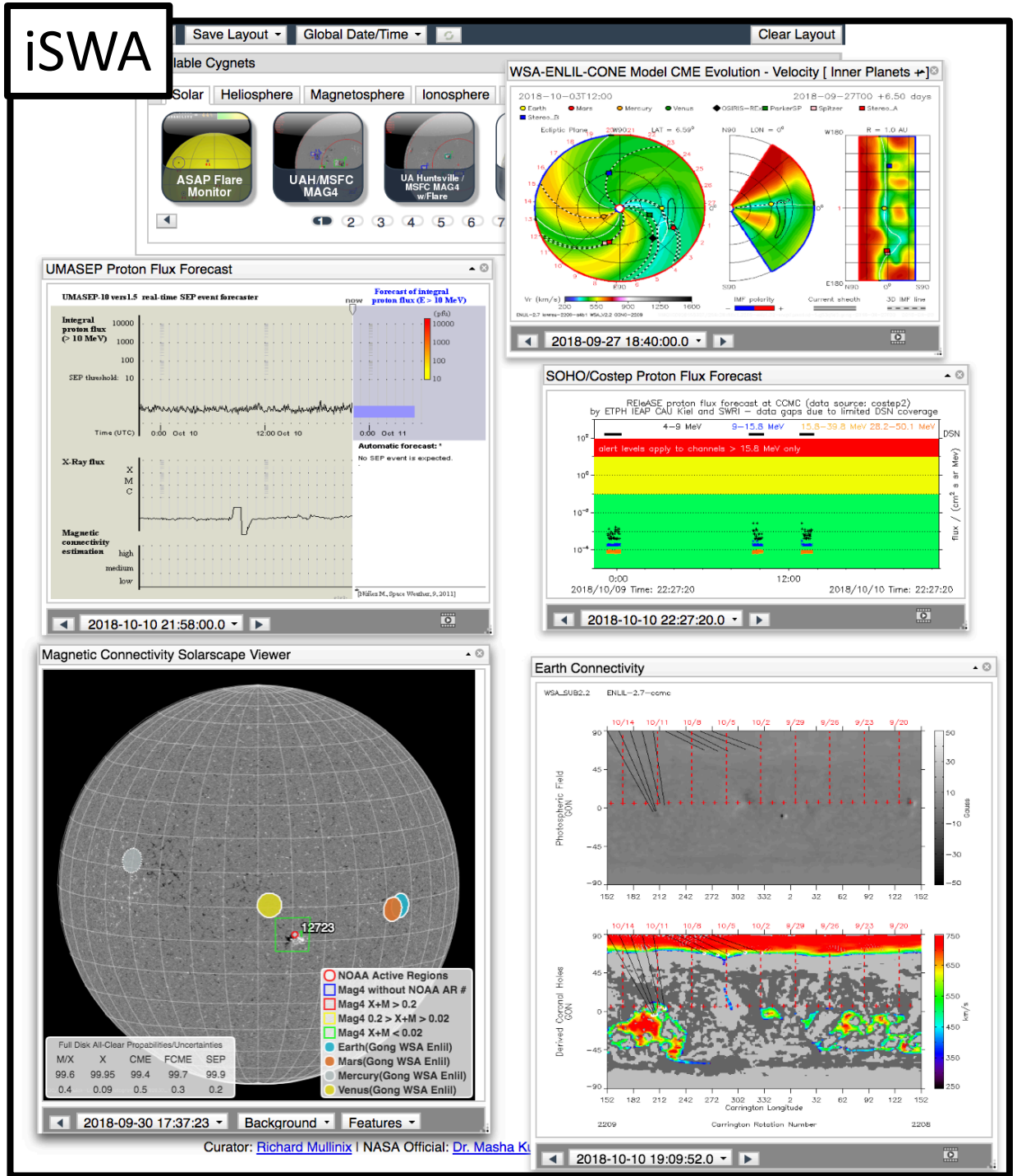
- MAG4: >10 MeV
- REleASE: 15.8–39.8 MeV, 28.2–50.1 MeV
- SEPSTER (Richardson) and SEPSTER2D (Bruno):
  14-24 MeV; expanded to >10, >30, >50, >100 MeV
- SEPMOD: 10-1000 MeV
  custom differential/integral channels possible
- STAT: 1-2 GeV
  custom differential/integral channels possible
  including >10, >50, >100 MeV
- UMASEP: >10, >30, >50, >100, >500 MeV
- iPATH: custom differential/integral channels possible
- ASPECS: >10, 30, 60, 100, 300 MeV

SEP Scoreboard Displays

Display will be built for multiple forecast types/stages

- (A) probability heat map and time series (MAG4, SWPC, ASPECS)
- (B) intensity heat map (SEPSTER, UMASEP, SEPMOD, STAT, ASPECS)
  - SEPSTER peak intensity is for entire event not including ESP
  - UMASEP peak intensity is for the next 1, 3, 7 hours
  - REleASE peak intensity is for next 30, 60, 90 min; derive from the timeseries
  - SEPMOD peak derived from the timeseries
- (C) intensity time series (REleASE, SEPMOD, UMASEP, STAT, ASPECS)
  - REleASE time series: next 30, 60, 90 min
  - UMASEP timeseries: next 1, 3, 7 hours
  - SEPMOD timeseries: next 7 days
- (D) all-clear forecast time series: MAG4, UMASEP, REleASE, SEPSTER, SEPMOD, STAT, ASPECS – coming in 2021

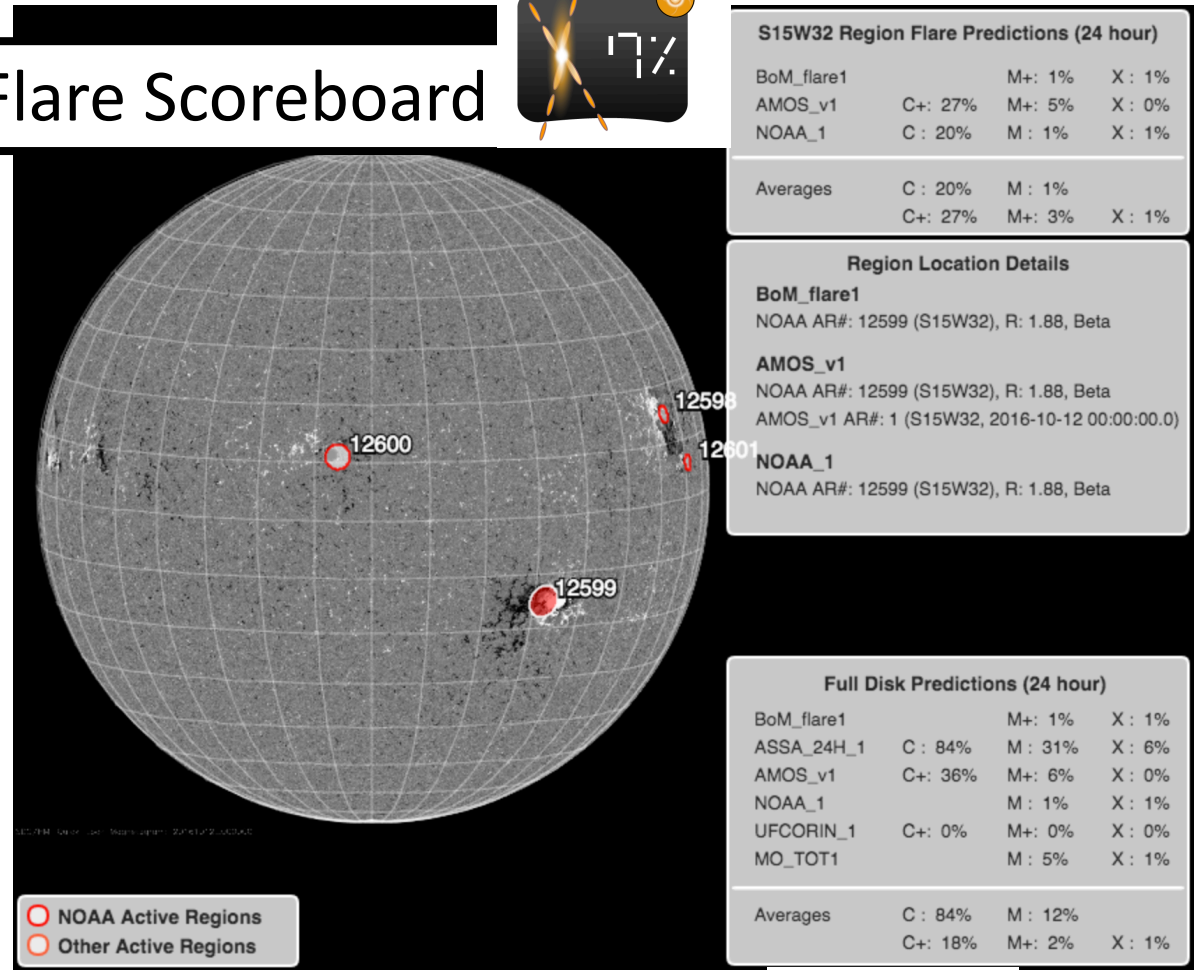
iSWA



Curator: Richard Mullinix | NASA Official: Dr. Masha K

Planned SEP Scoreboard Connections

Flare Scoreboard



S15W32 Region Flare Predictions (24 hour)

BoM_flare1		M+: 1%	X : 1%
AMOS_v1	C+: 27%	M+: 5%	X : 0%
NOAA_1	C : 20%	M : 1%	X : 1%
Averages	C : 20%	M : 1%	
	C+: 27%	M+: 3%	X : 1%

Region Location Details

BoM_flare1
NOAA AR#: 12599 (S15W32), R: 1.88, Beta

AMOS_v1
NOAA AR#: 12599 (S15W32), R: 1.88, Beta
AMOS_v1 AR#: 1 (S15W32, 2016-10-12 00:00:00.0)

NOAA_1
NOAA AR#: 12599 (S15W32), R: 1.88, Beta

Full Disk Predictions (24 hour)

BoM_flare1		M+: 1%	X : 1%
ASSA_24H_1	C : 84%	M : 31%	X : 6%
AMOS_v1	C+: 36%	M+: 6%	X : 0%
NOAA_1		M : 1%	X : 1%
UFCORIN_1	C+: 0%	M+: 0%	X : 0%
MO_TOT1		M : 5%	X : 1%
Averages	C : 84%	M : 12%	
	C+: 18%	M+: 2%	X : 1%

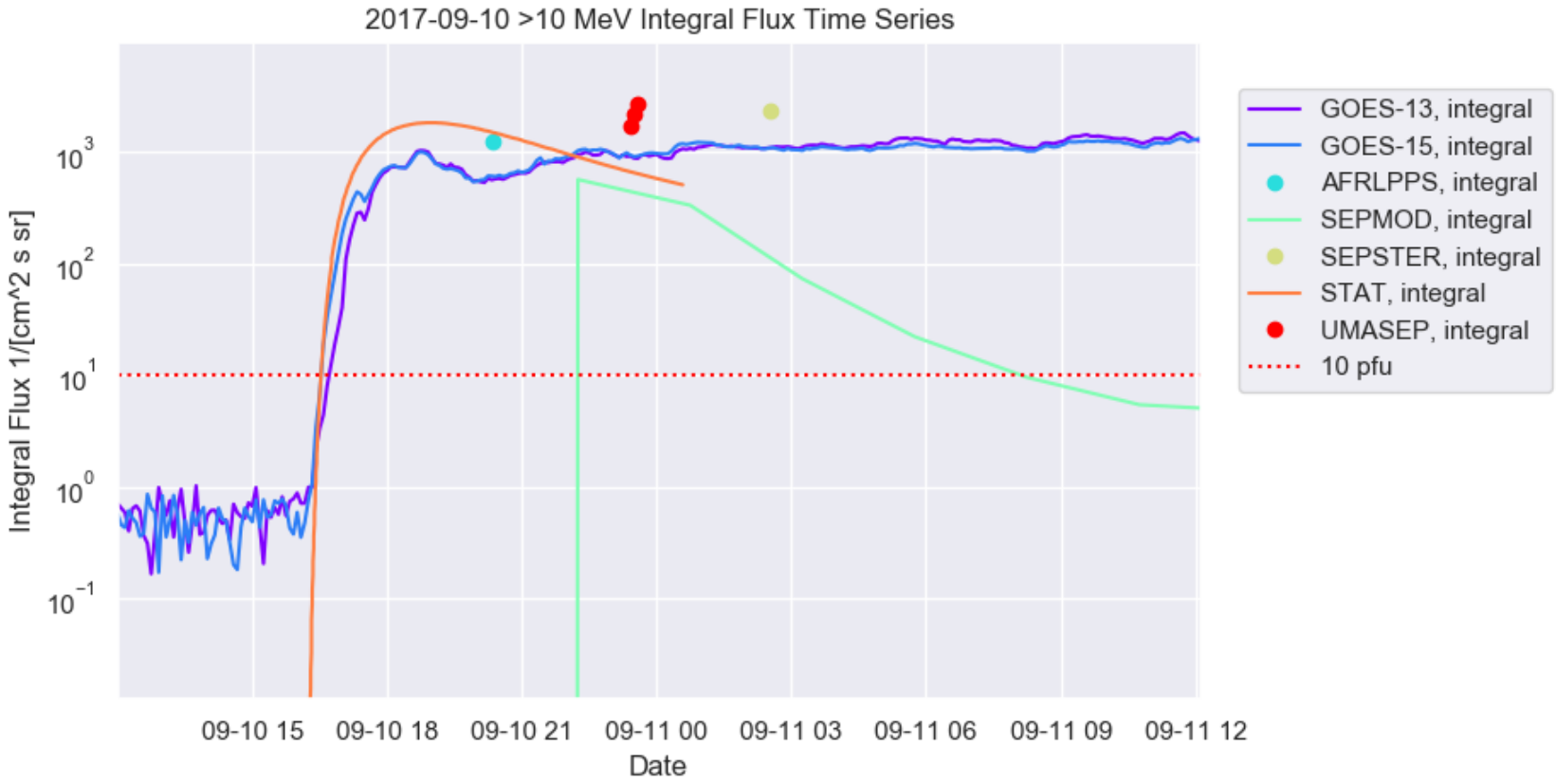
DONKI:

CCMC's real-time SW Event Catalog

CME Scoreboard

ISWAT SEP Validation Team

Team Leads: K. Whitman, P. Quinn, H. Bain, I.G. Richardson, M.L. Mays
Scoreboard Leads: M. Dierckxsens, M.L. Mays



Preliminary comparisons of integral intensity time series for 5 different models for the September 2017 event (SHINE 2019 campaign)

- Began in 2017 as the "SEP Working Team"; now part of ISWAT
- Conducted 3 community campaign sessions: SHINE 2018-2019, and ESWW 2018
- Bring together SEP modelers, observers, operators and forecasters
- Inform research community operational needs
- Compare model results for operationally relevant information for 3 SEP events
- Contact us to get involved:

https://www.iswat-cospar.org/h3-01

Summary: SEP Scoreboard

https://ccmc.gsfc.nasa.gov/challenges/sep.php

- Models are being added to the scoreboard as part of a project with NASA Space Radiation Analysis Group; all models are welcome.
- The Scoreboard displays are available publicly on the web: probability and intensity time series and heat maps
- The SEP Validation Team has performed preliminary validation for 3 historical events as part of SHINE 2018-2019 and ESWW 2018 community campaigns. SHINE 2021 and ESWW 2021 campaigns are underway
- Everyone in the community is welcome to participate!
  - Models that run in real-time: provide model outputs to the scoreboard via ftp
  - Models that run in historical mode/for science studies: provide results and participate in the SEP Validation Team activities
- **Demo screenshots are shown in the following supplemental slides:**

Demo Screenshots: Probability Time Series

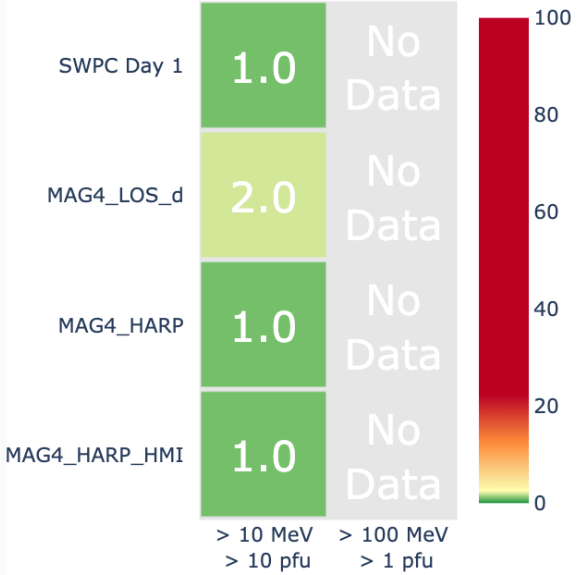
SEP Scoreboard *Demo: Probability heat map and time series*

-1 week | -1 day | -1 hour | 2017-09-03 12:00 | +1 hour | +1 day | +1 week | Today

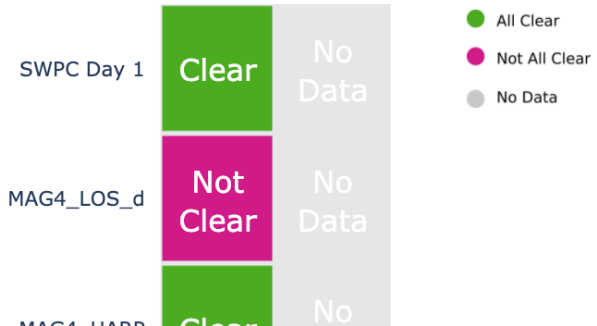
Refresh Plots

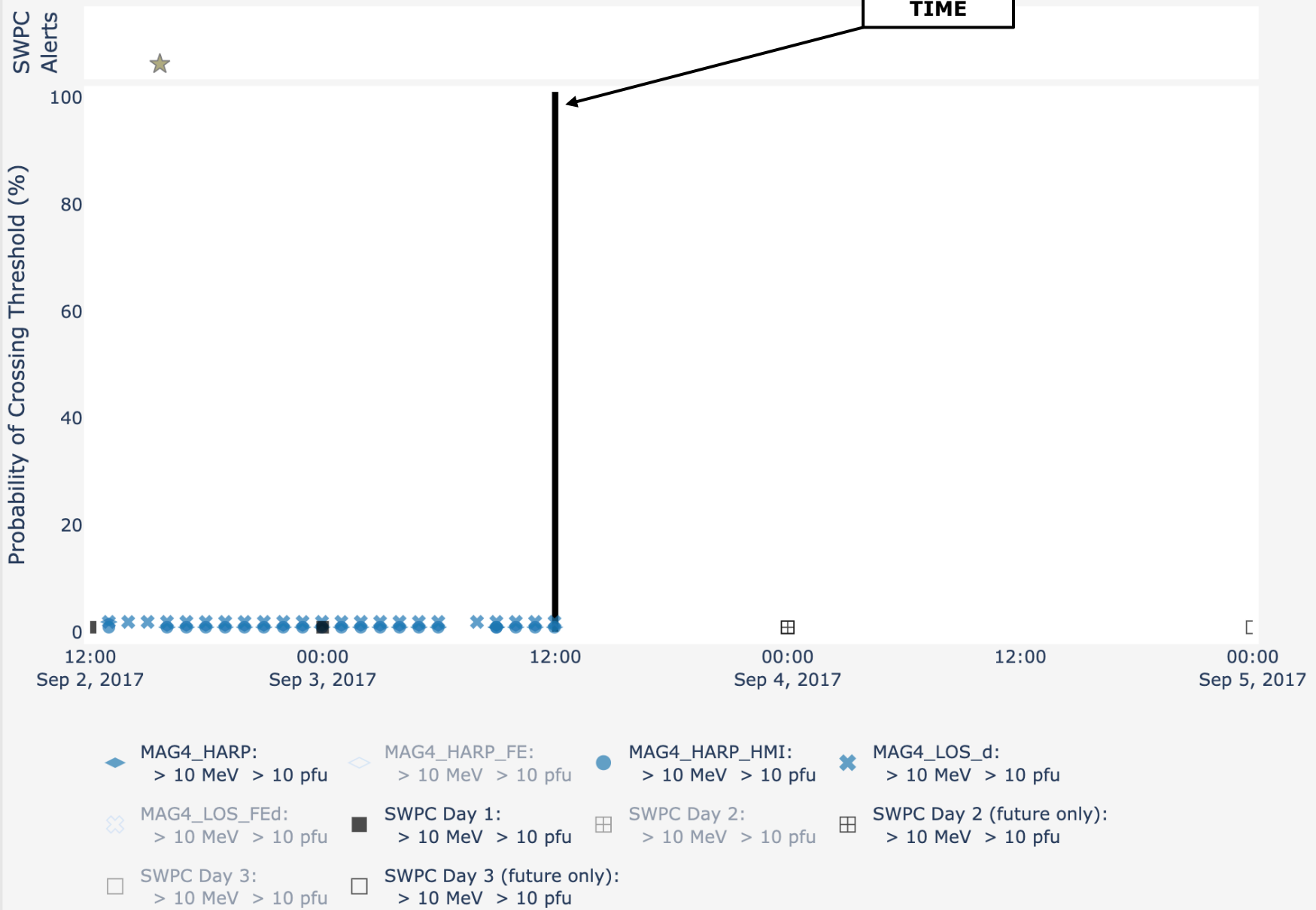
SELECTED TIME

Proton Probability Forecasts: 2017-09-03 12:00 UT

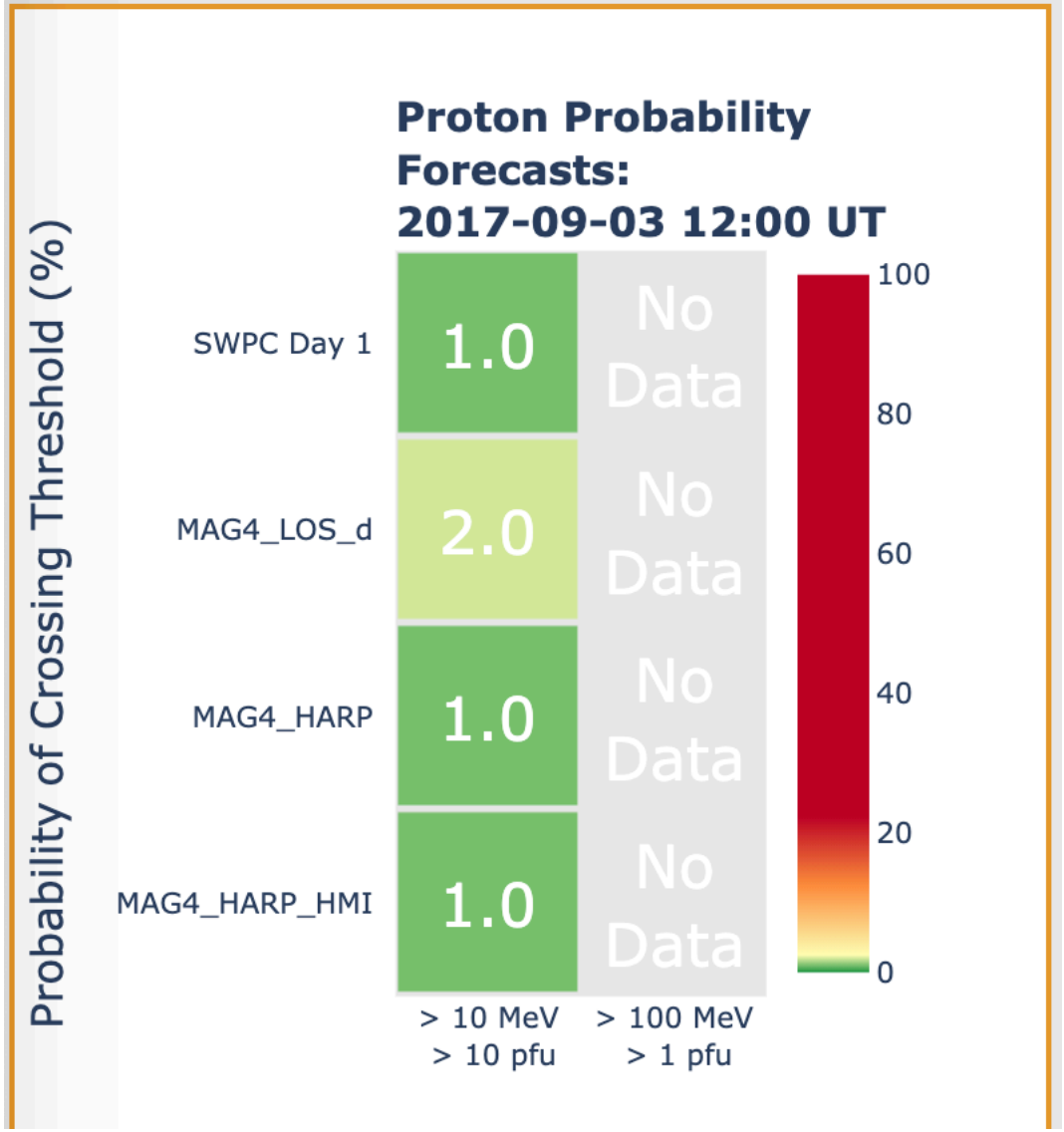


Proton All Clear Forecasts: 2017-09-03 12:00 UT

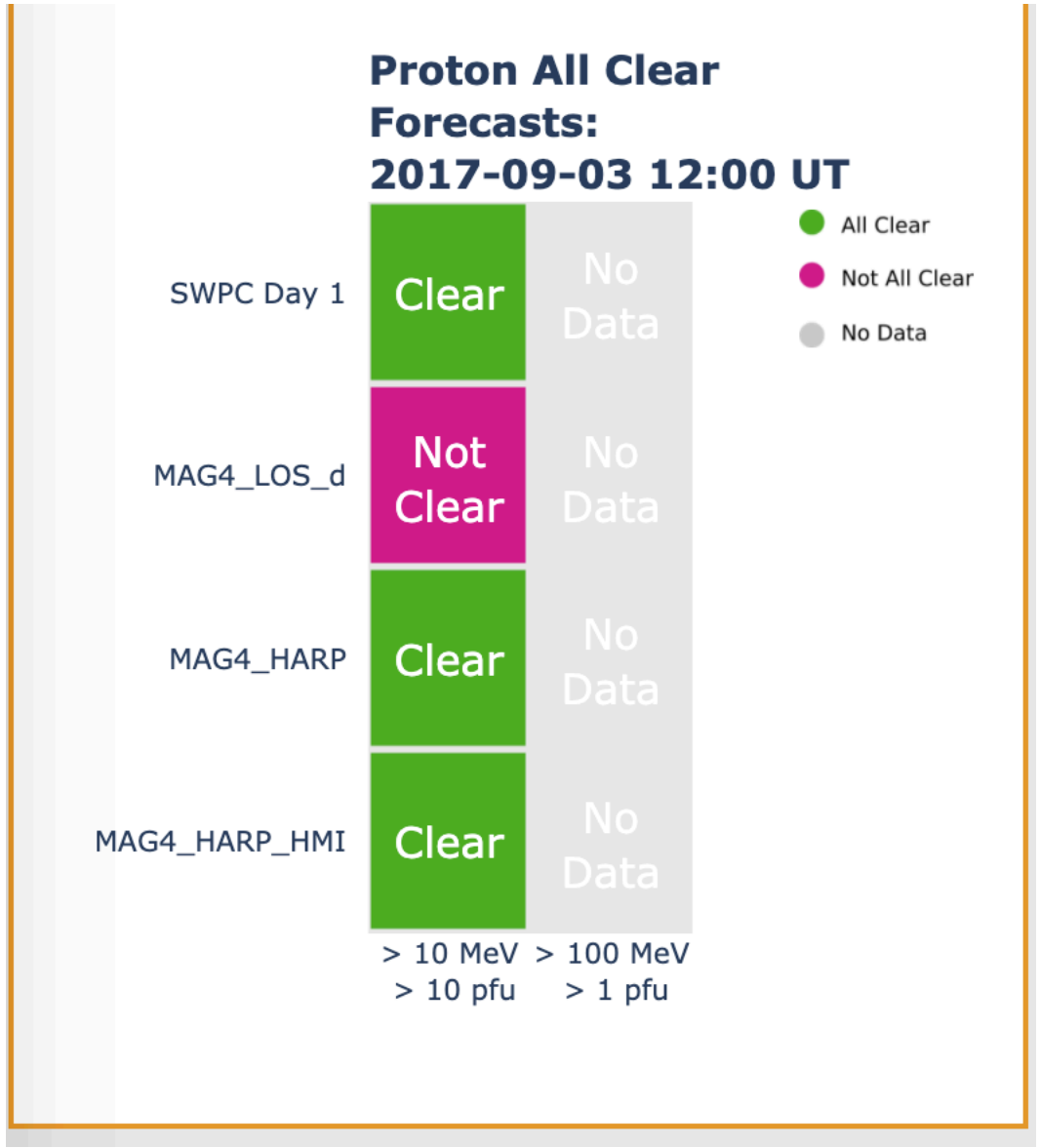




SEP Scoreboard



Demo: all clear display



SEP Scoreboard

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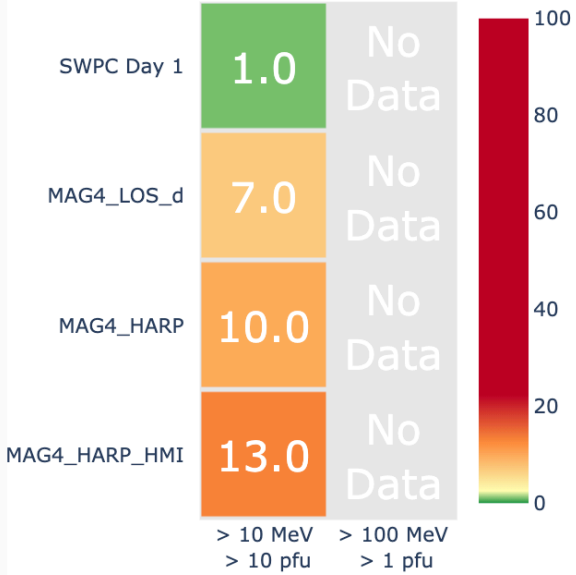
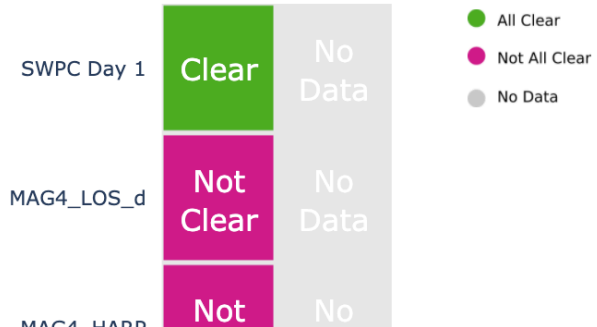
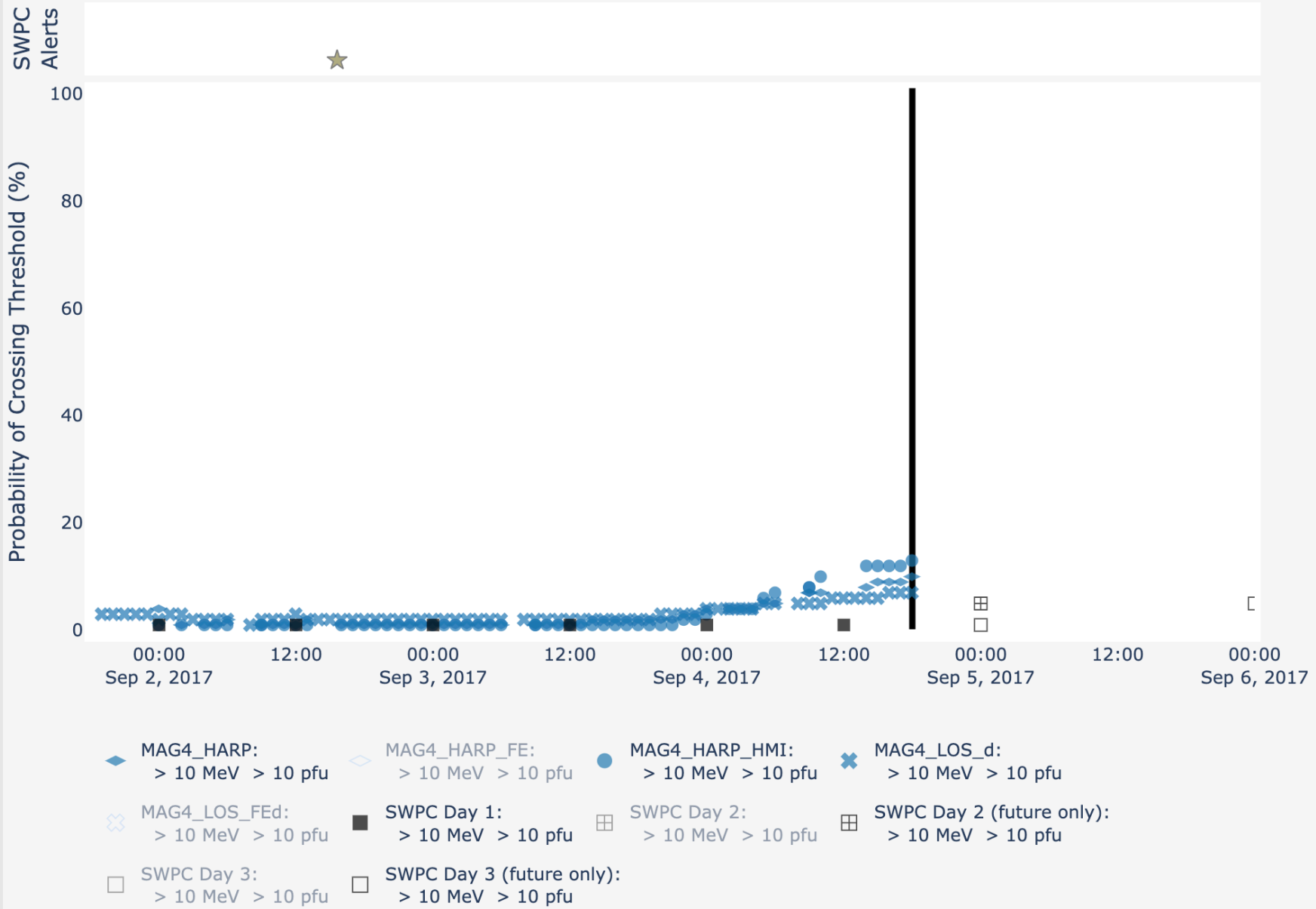
Refresh Plots

Proton Probability Forecasts: 2017-09-04 18:00 UT

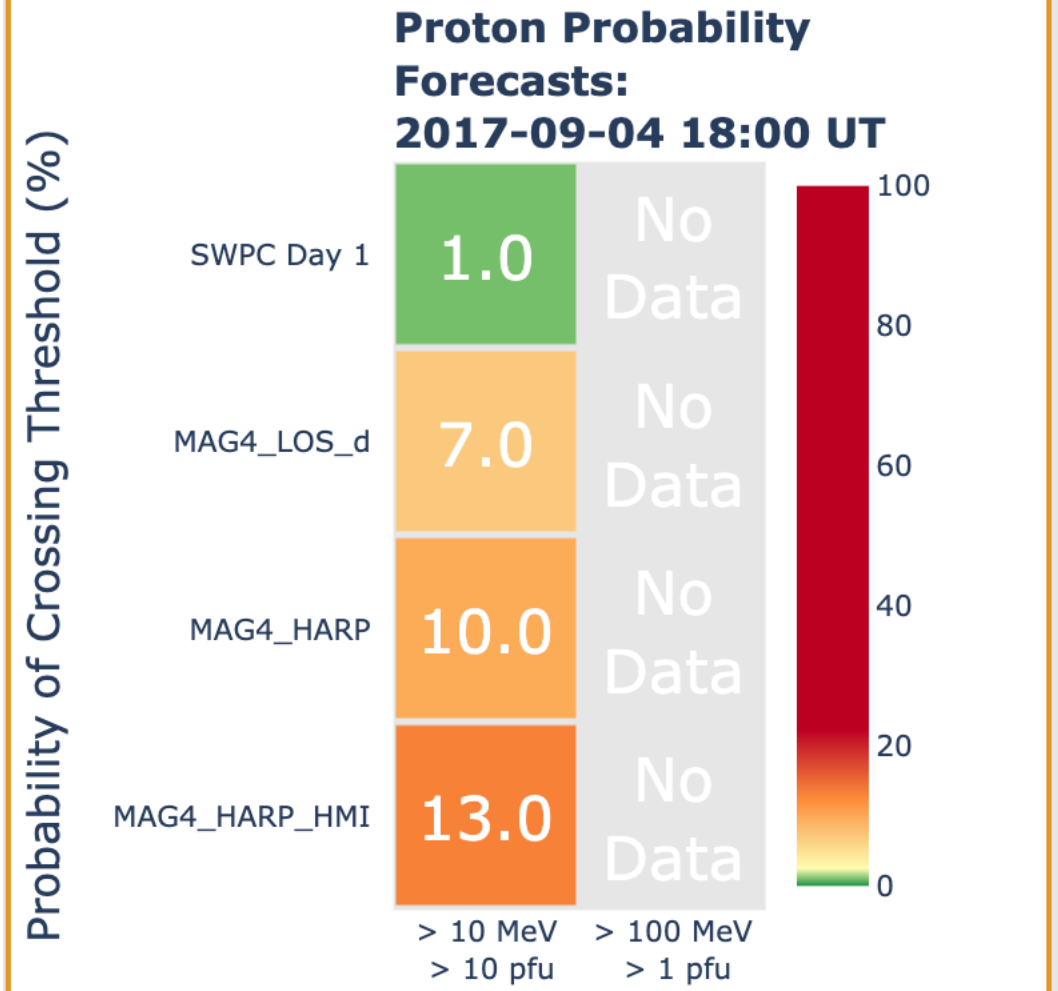


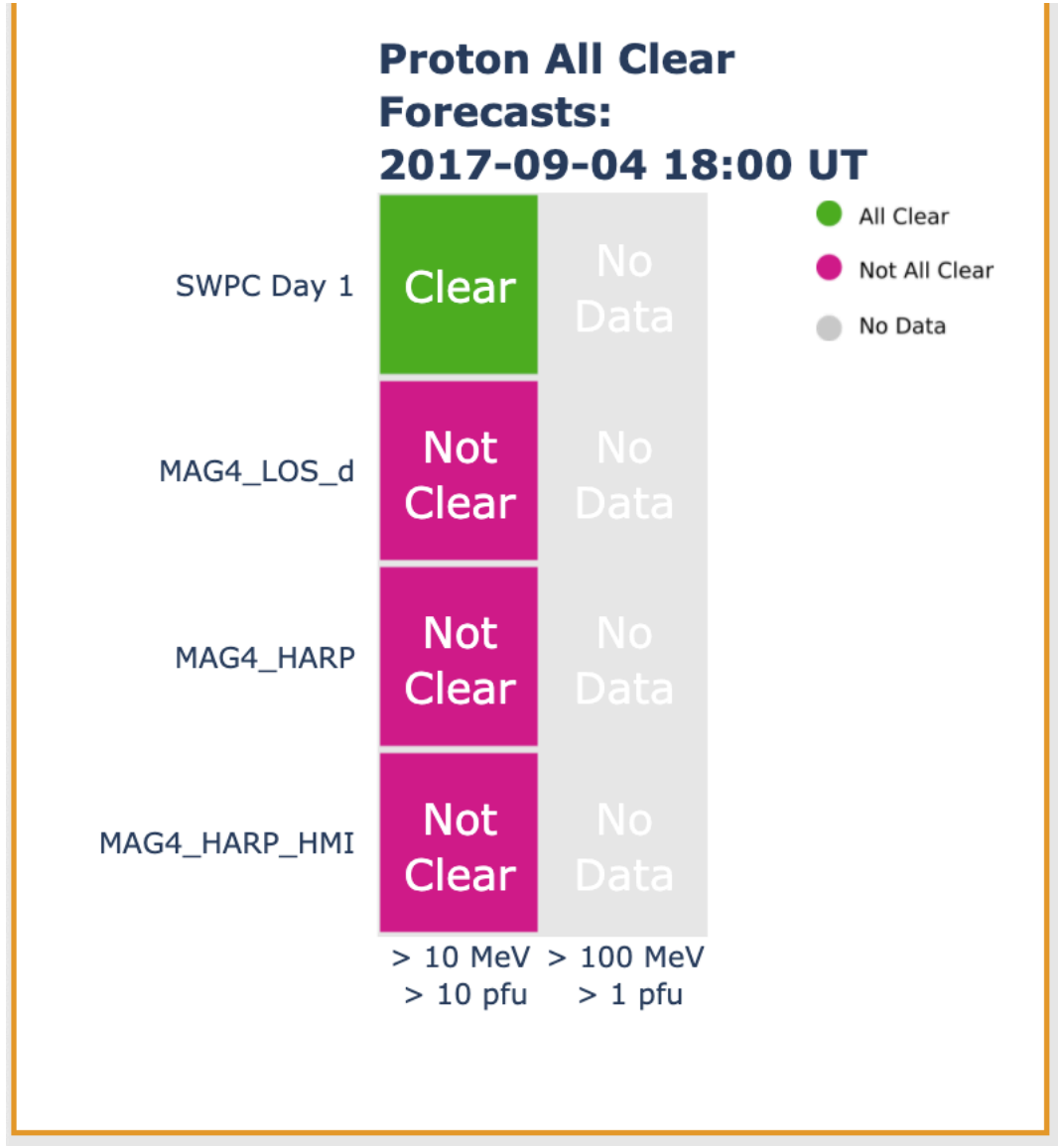
Proton All Clear Forecasts: 2017-09-04 18:00 UT





SEP Scoreboard





SEP Scoreboard

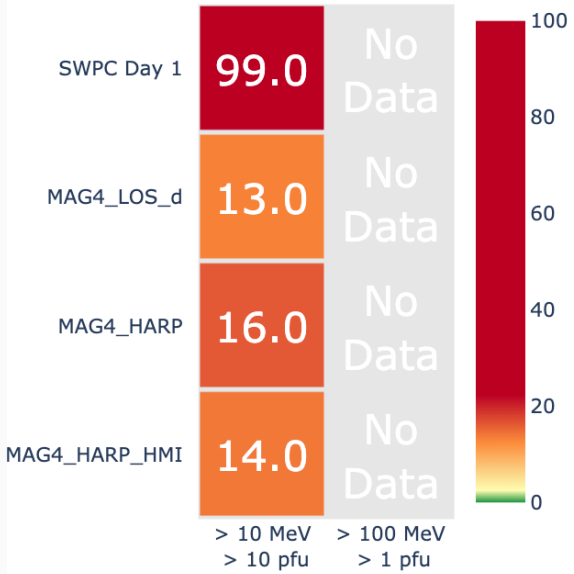
red line:
S1 event onset
(>10 MeV first exceeds 10pfu)

-1 week | -1 day | -1 hour | 2017-09-06 12:00 | +1 hour | +1 day | +1 week | Today

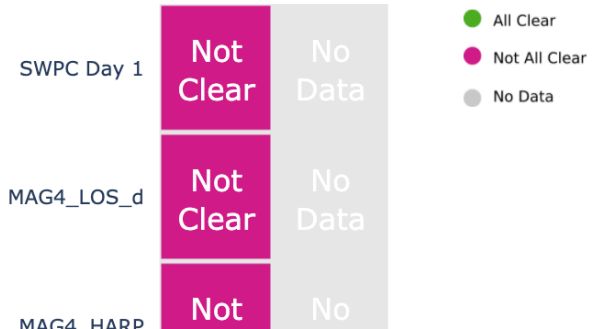
Refresh Plots

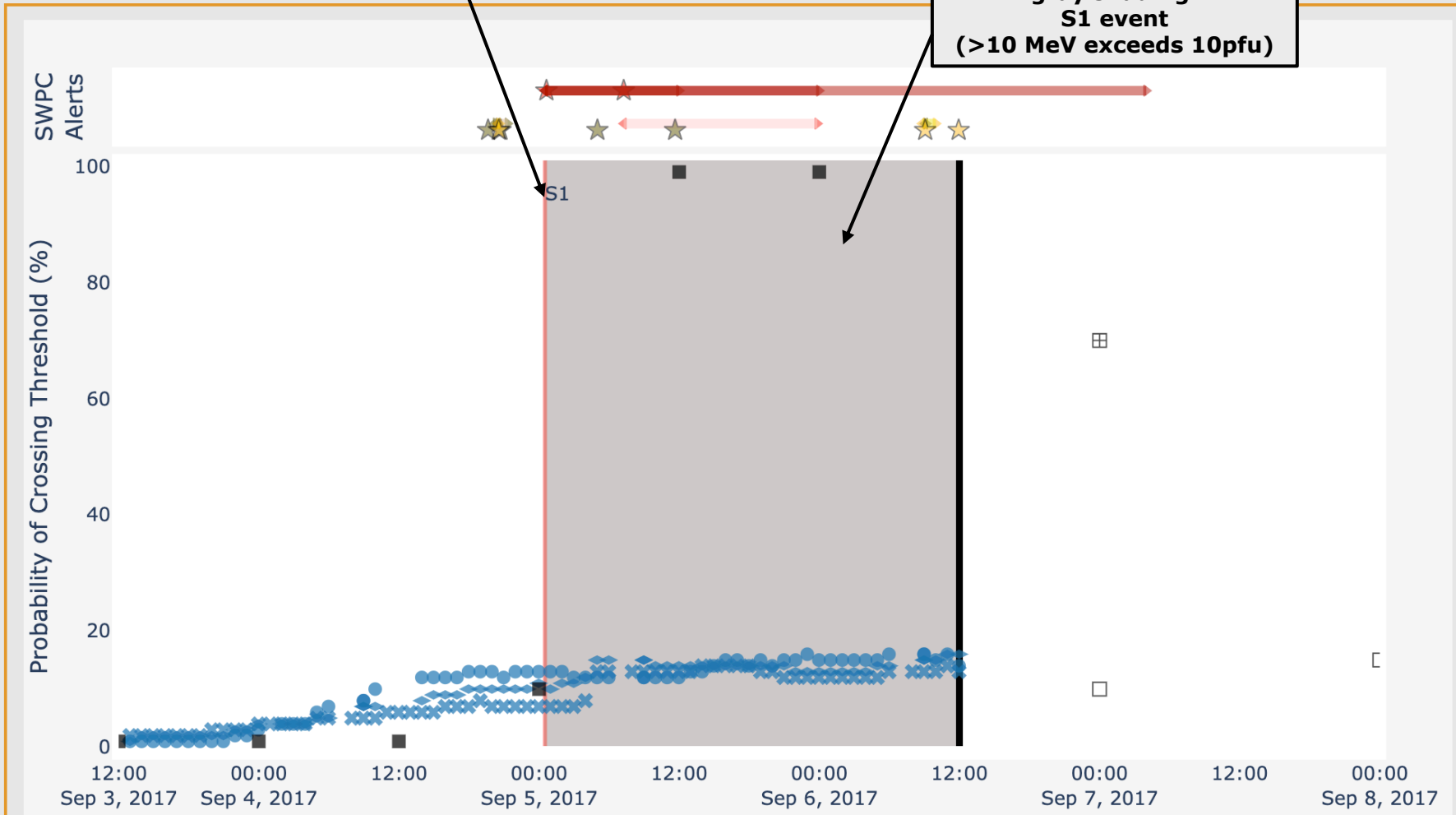
gray shading:
S1 event
(>10 MeV exceeds 10pfu)

Proton Probability Forecasts: 2017-09-06 12:00 UT



Proton All Clear Forecasts: 2017-09-06 12:00 UT





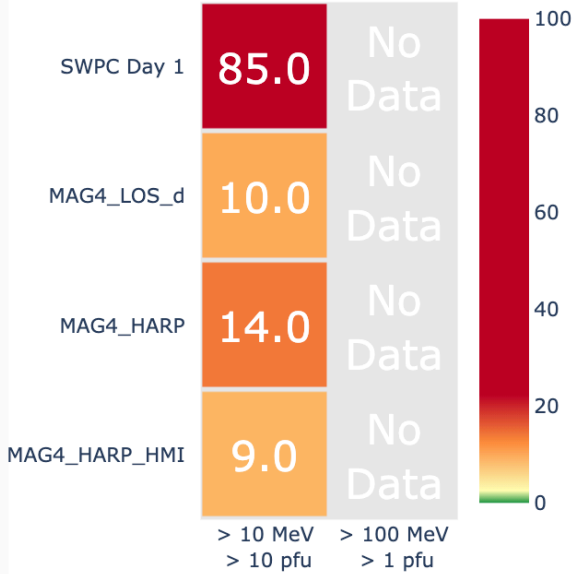
MAG4_HARP: > 10 MeV > 10 pfu
MAG4_HARP_FE: > 10 MeV > 10 pfu
MAG4_HARP_HMI: > 10 MeV > 10 pfu
MAG4_LOS_d: > 10 MeV > 10 pfu
MAG4_LOS_FEd: > 10 MeV > 10 pfu
SWPC Day 1: > 10 MeV > 10 pfu
SWPC Day 2: > 10 MeV > 10 pfu
SWPC Day 2 (future only): > 10 MeV > 10 pfu
SWPC Day 3: > 10 MeV > 10 pfu
SWPC Day 3 (future only): > 10 MeV > 10 pfu

SEP Scoreboard

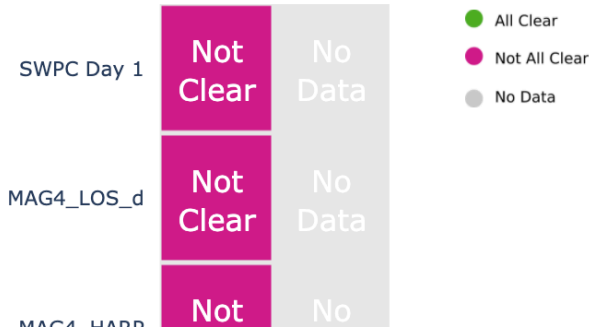
-1 week | -1 day | -1 hour | 2017-09-07 12:00 | +1 hour | +1 day | +1 week | Today

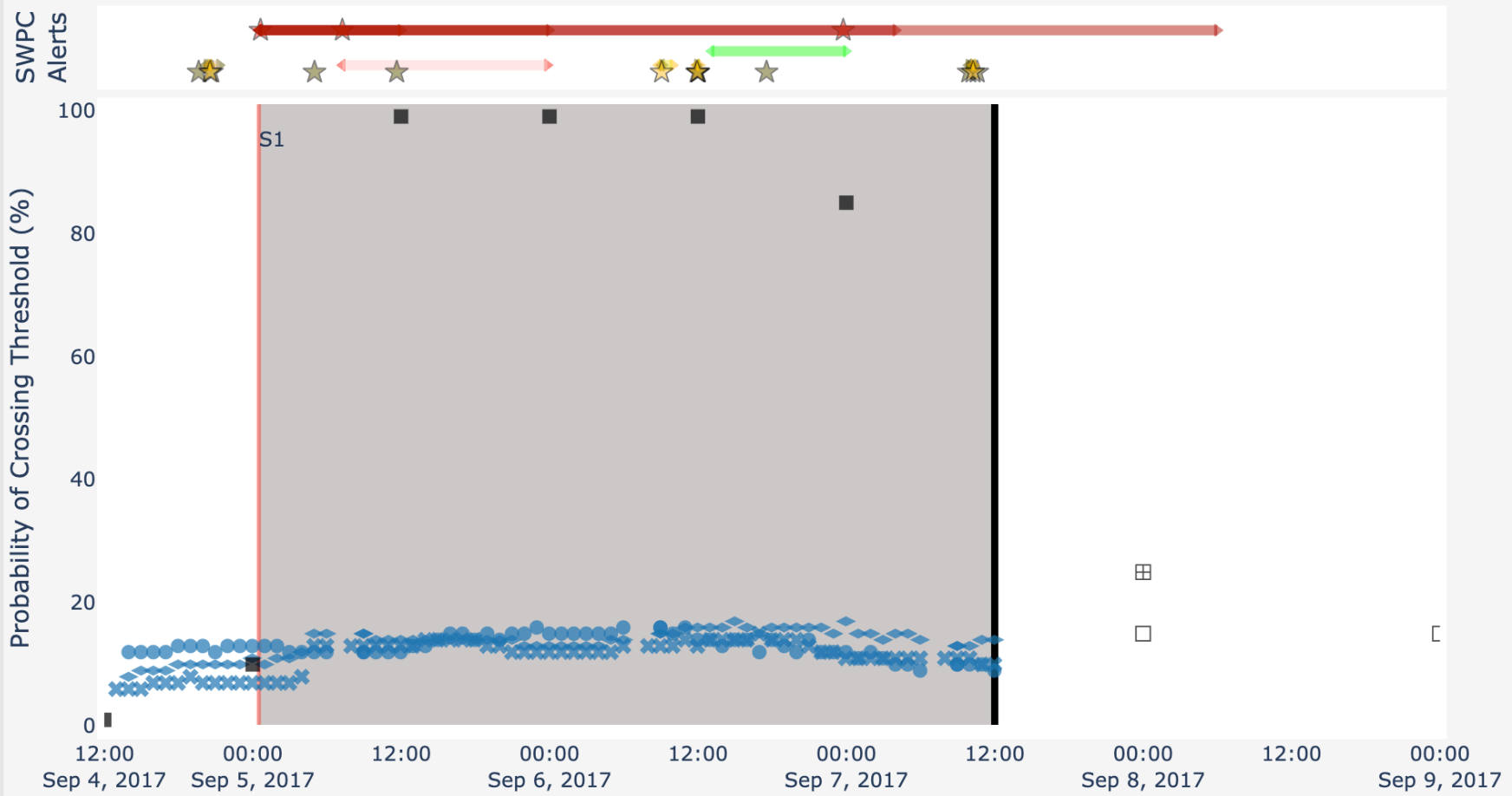
Refresh Plots

Proton Probability Forecasts: 2017-09-07 12:00 UT



Proton All Clear Forecasts: 2017-09-07 12:00 UT





MAG4_HARP: > 10 MeV > 10 pfu

MAG4_HARP_FE: > 10 MeV > 10 pfu

MAG4_HARP_HMI: > 10 MeV > 10 pfu

MAG4_LOS_d: > 10 MeV > 10 pfu

MAG4_LOS_FEd: > 10 MeV > 10 pfu

SWPC Day 1: > 10 MeV > 10 pfu

SWPC Day 2: > 10 MeV > 10 pfu

SWPC Day 2 (future only): > 10 MeV > 10 pfu

SWPC Day 3: > 10 MeV > 10 pfu

SWPC Day 3 (future only): > 10 MeV > 10 pfu

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-08 00:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Probability Forecasts: 2017-09-08 00:00 UT

	> 10 MeV > 10 pfu	> 100 MeV > 1 pfu
SWPC Day 1	No Data	No Data
MAG4_LOS_d	8.0	No Data
MAG4_HARP	15.0	No Data
MAG4_HARP_HMI	9.0	No Data

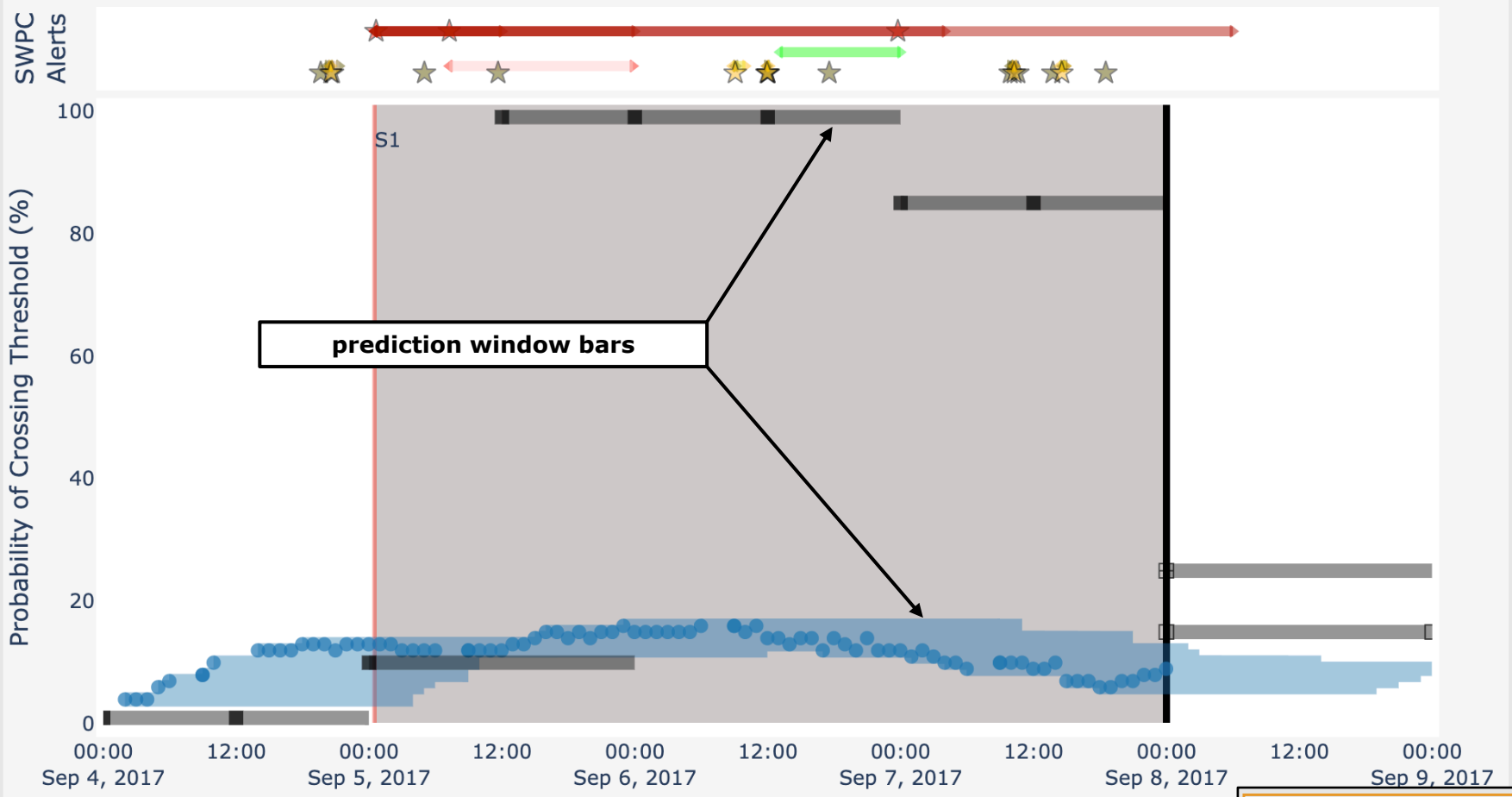
Probability of Crossing Threshold (%)

100 80 60 40 20 0

Proton All Clear Forecasts: 2017-09-08 00:00 UT

	> 10 MeV > 10 pfu	> 100 MeV > 1 pfu
SWPC Day 1	No Data	No Data
MAG4_LOS_d	Not Clear	No Data
MAG4_HARP	Not	No

All Clear
Not All Clear
No Data



MAG4_HARP: > 10 MeV > 10 pfu
MAG4_HARP_FE: > 10 MeV > 10 pfu
MAG4_HARP_HMI: > 10 MeV > 10 pfu
MAG4_LOS_d: > 10 MeV > 10 pfu
MAG4_LOS_FEd: > 10 MeV > 10 pfu
SWPC Day 1: > 10 MeV > 10 pfu
SWPC Day 2: > 10 MeV > 10 pfu
SWPC Day 2 (future onl > 10 MeV > 10 pfu
SWPC Day 3: > 10 MeV > 10 pfu
SWPC Day 3 (future only): > 10 MeV > 10 pfu

Graph Show Options

- [ ] Auto Refresh
- [x] Prediction Window Bars
- [ ] Model Family as One
- [ ] Forecast Probability Error Bars

Range of X Axis

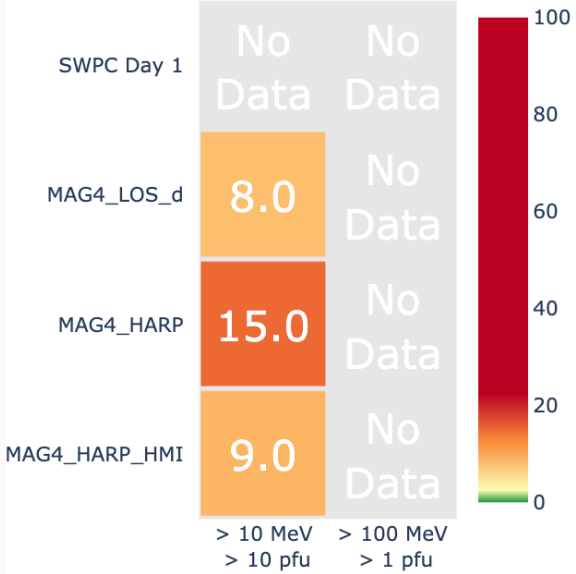
4 days of data

SEP Scoreboard

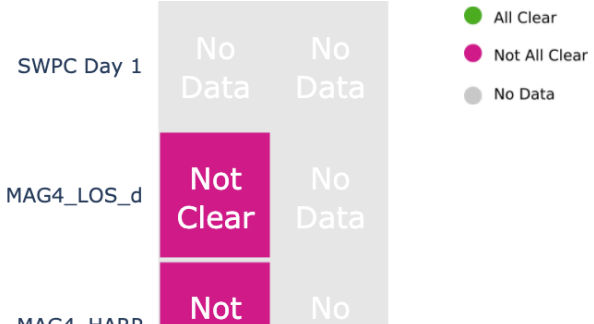
-1 week | -1 day | -1 hour | 2017-09-08 00:00 | +1 hour | +1 day | +1 week | Today

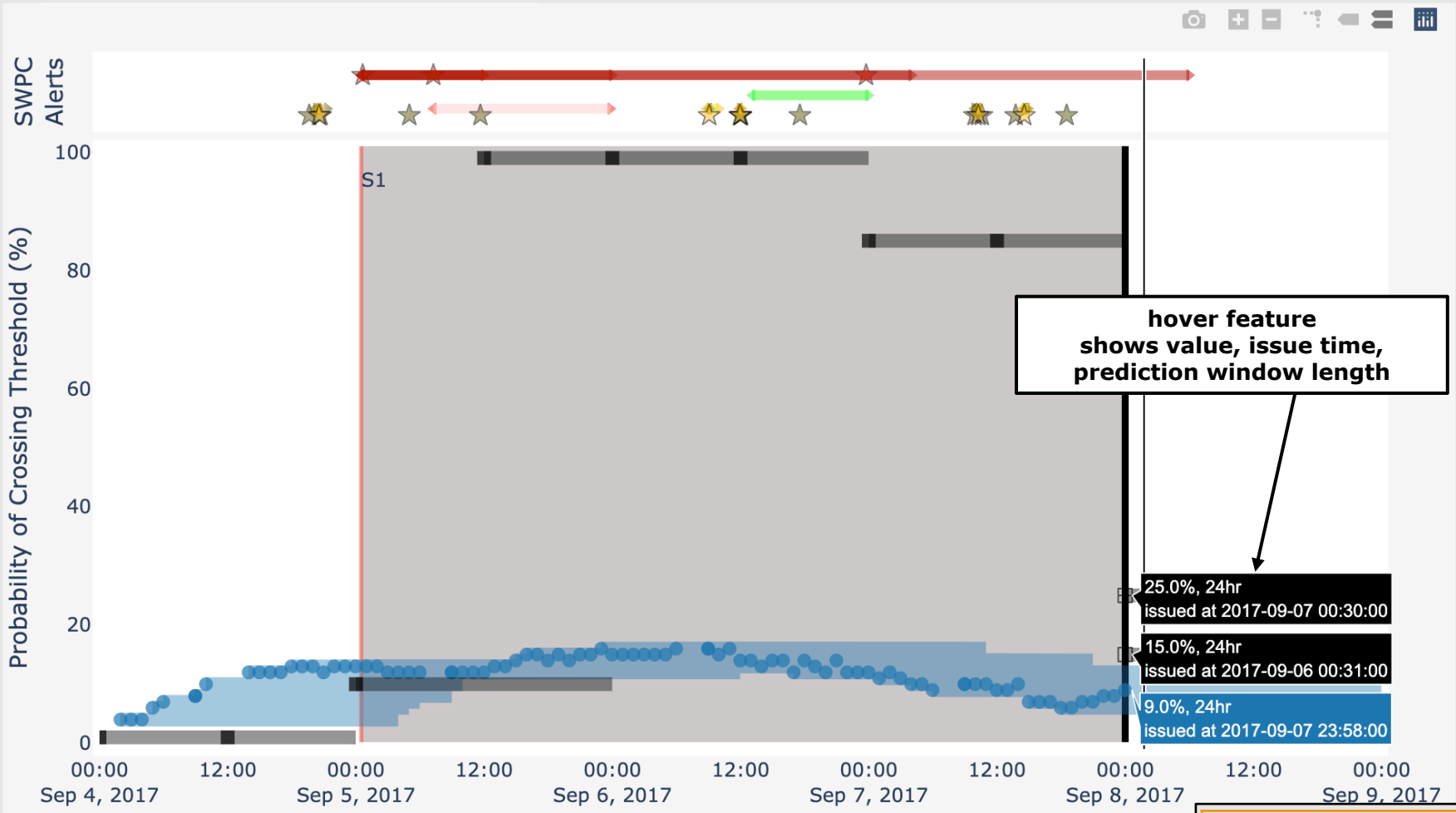
Refresh Plots

Proton Probability Forecasts: 2017-09-08 00:00 UT



Proton All Clear Forecasts: 2017-09-08 00:00 UT





MAG4_HARP: > 10 MeV > 10 pfu

MAG4_HARP_FE: > 10 MeV > 10 pfu

MAG4_HARP_HMI: > 10 MeV > 10 pfu

MAG4_LOS_d: > 10 MeV > 10 pfu

MAG4_LOS_FEd: > 10 MeV > 10 pfu

SWPC Day 1: > 10 MeV > 10 pfu

SWPC Day 2: > 10 MeV > 10 pfu

SWPC Day 2 (future onl > 10 MeV > 10 pfu

SWPC Day 3: > 10 MeV > 10 pfu

SWPC Day 3 (future only): > 10 MeV > 10 pfu

Graph Show Options

- [ ] Auto Refresh
- [x] Prediction Window Bars
- [ ] Model Family as One
- [ ] Forecast Probability Error Bars

Range of X Axis

4 days of data

Preview

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-08 01:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Probability Forecasts: 2017-09-08 01:00 UT

	> 10 MeV > 10 pfu	> 100 MeV > 1 pfu
SWPC Day 1	99.0	No Data
MAG4_LOS_d	8.0	No Data
MAG4_HARP	14.0	No Data
MAG4_HARP_HMI	8.0	No Data

Proton All Clear Forecasts: 2017-09-08 01:00 UT

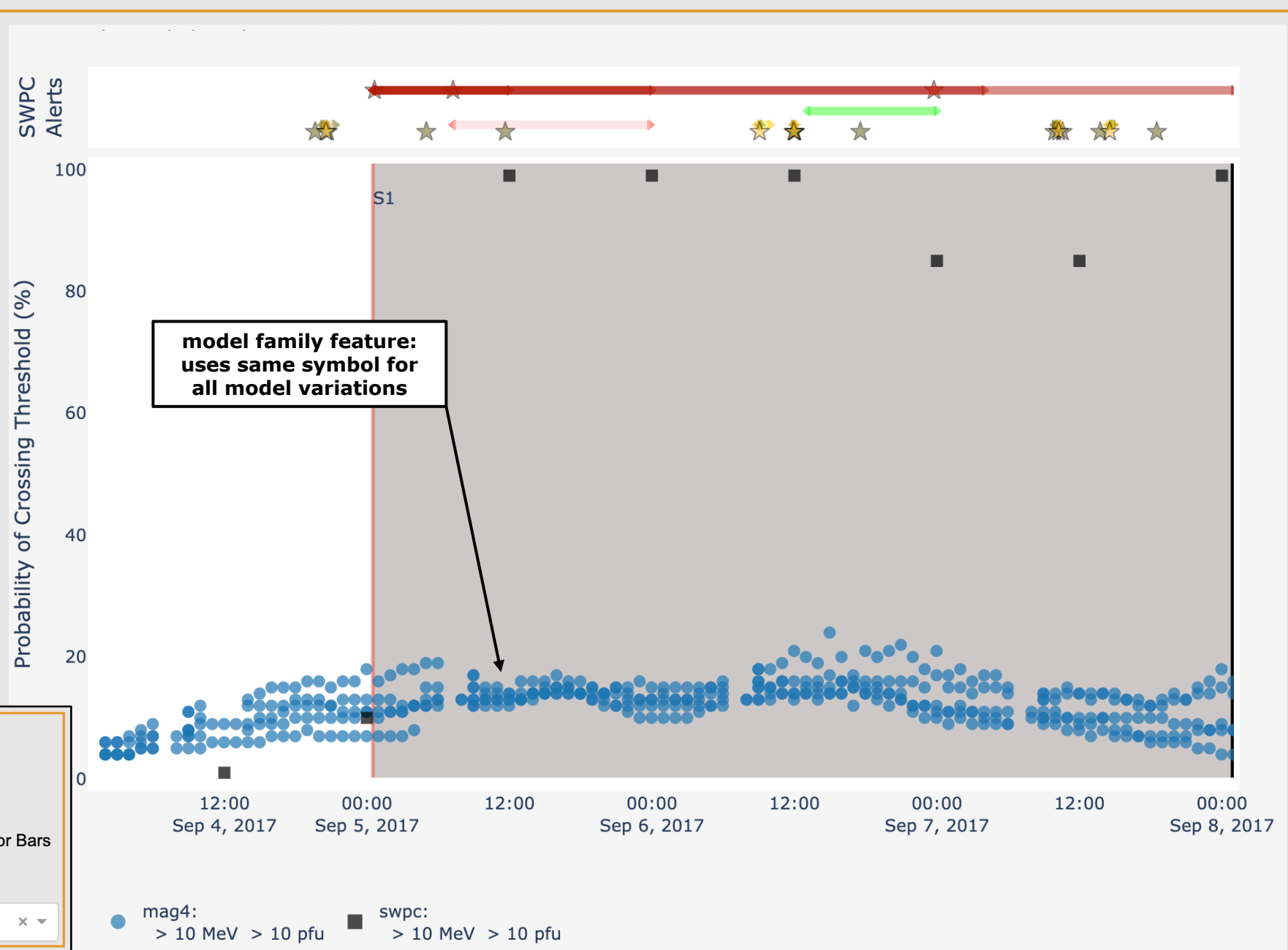
SWPC Day 1	Not Clear
MAG4_LOS_d	Not Clear
	Not

Graph Show Options

- [ ] Auto Refresh
- [ ] Prediction Window Bars
- [x] Model Family as One
- [ ] Forecast Probability Error Bars

Range of X Axis

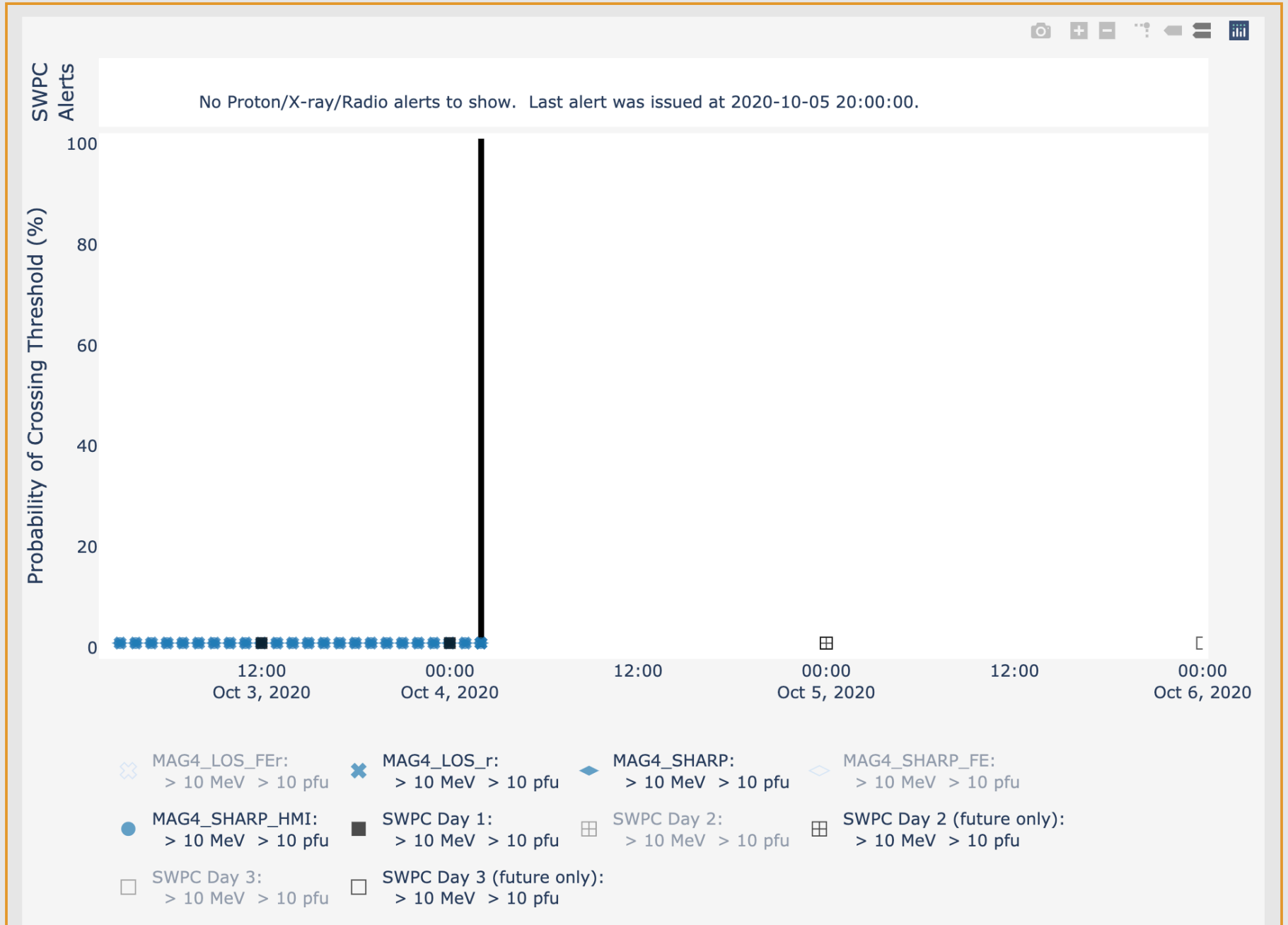
4 days of data



Demo: Auto-refresh mode, recent date

-1 week | -1 day | -1 hour | 2020-10-04 02:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots



Demo Screenshots: Intensity Time Series

(shown in simulated real-time mode)

SEP Scoreboard

Demo: Intensity time series and intensity heat map

-1 week | -1 day | -1 hour | 2017-09-04 12:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

CURRENT TIME

Proton Intensity Forecasts:

2017-09-0412:00 UT

	> 10 MeV	> 100 MeV
GOES	0.1	0.03
SEPMOD	No data	No data
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not clea, clear, no data

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

Proto

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV

selected date/time: 2017-09-04 12:00 UT

SWPC Alerts

Proton Intensity $(cm^2\ sr\ s)^{-1}$

10^1, 10^0, 10^{-1}, 10^{-2}

12:00 Sep 1, 2017 | 00:00 Sep 2, 2017 | 12:00 | 00:00 Sep 3, 2017 | 12:00 | 00:00 Sep 4, 2017 | 12:00

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-04 22:40 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-022:40 UT

	> 10 MeV	> 100 MeV
GOES	0.5	0.06
SEPMOD	No data	No data
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

Proton

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV

selected date/time: 2017-09-04 22:40 UT

SWPC Alerts

Proton Intensity $(cm^2\ sr\ s)^{-1}$

10^1, 10^0, 10^{-1}, 10^{-2}

REleASE ACE 60-min 28.2 - 50.1 MeV
1.24 pfu
issued at 2017-09-04 21:53:02
prediction window duration: 0min
prediction window start: 2017-09-04 22:39:59
prediction window end: 2017-09-04 22:39:59

00:00 Sep 2, 2017 | 12:00 | 00:00 Sep 3, 2017 | 12:00 | 00:00 Sep 4, 2017 | 12:00 | 00:00 Sep 5, 2017

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-05 00:15 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-000:15 UT

	> 10 MeV	> 100 MeV
GOES	5.4	0.07
SEPMOD	No data	No data
SEPSTER	14.2	0.14
STAT	No data	No data
UMASEP	29.3 ± 6.7	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-10: > 10 MeV

Proto

selected date/time: 2017-09-05 00:15 UT

SWPC Alerts

Additional Information for Selected Point:

https://kauai.ccmc.gsfc.nasa.gov/DONKI/view/CME/12989/-1

SEPSTER (Parker Spiral) >10 MeV
10.5 pfu
issued at 2017-09-04 23:05:00
prediction window duration: 10hr
prediction window start: 2017-09-04 20:36:00
prediction window end: 2017-09-05 06:28:00

Input CME parameters:
speed: 1114 km/s **half-width:** 46
longitude: 10° **latitude:** -10°

Proton Intensity (cm^2 sr s)$^{-1}$

10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

12:00 Sep 2, 2017 | 00:00 Sep 3, 2017 | 12:00 | 00:00 Sep 4, 2017 | 12:00 | 00:00 Sep 5, 2017

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-05 01:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-001:00 UT

	> 10 MeV	> 100 MeV
GOES	11.4	0.05
SEPMOD	No data	No data
SEPSTER	14.2	0.14
STAT	No data	No data
UMASEP	Not Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

Proto

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-10: > 10 MeV

selected date/time: 2017-09-05 01:00 UT

SWPC Alerts

UMASEP >10 MeV
29.27 pfu ± 6.73 at 2017-09-05 07:00:00
issued at 2017-09-05 00:00:00
prediction window duration: 7hr
prediction window start: 2017-09-05 00:00:00
prediction window end: 2017-09-05 07:00:00
threshold crossing onset: 2017-09-05 00:00:00 + 2.0 hours

Proton Intensity (cm^2 sr s)$^{-1}$

10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

06:00 Sep 4, 2017 | 12:00 | 18:00 | 00:00 Sep 5, 2017 | 06:00

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-05 02:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

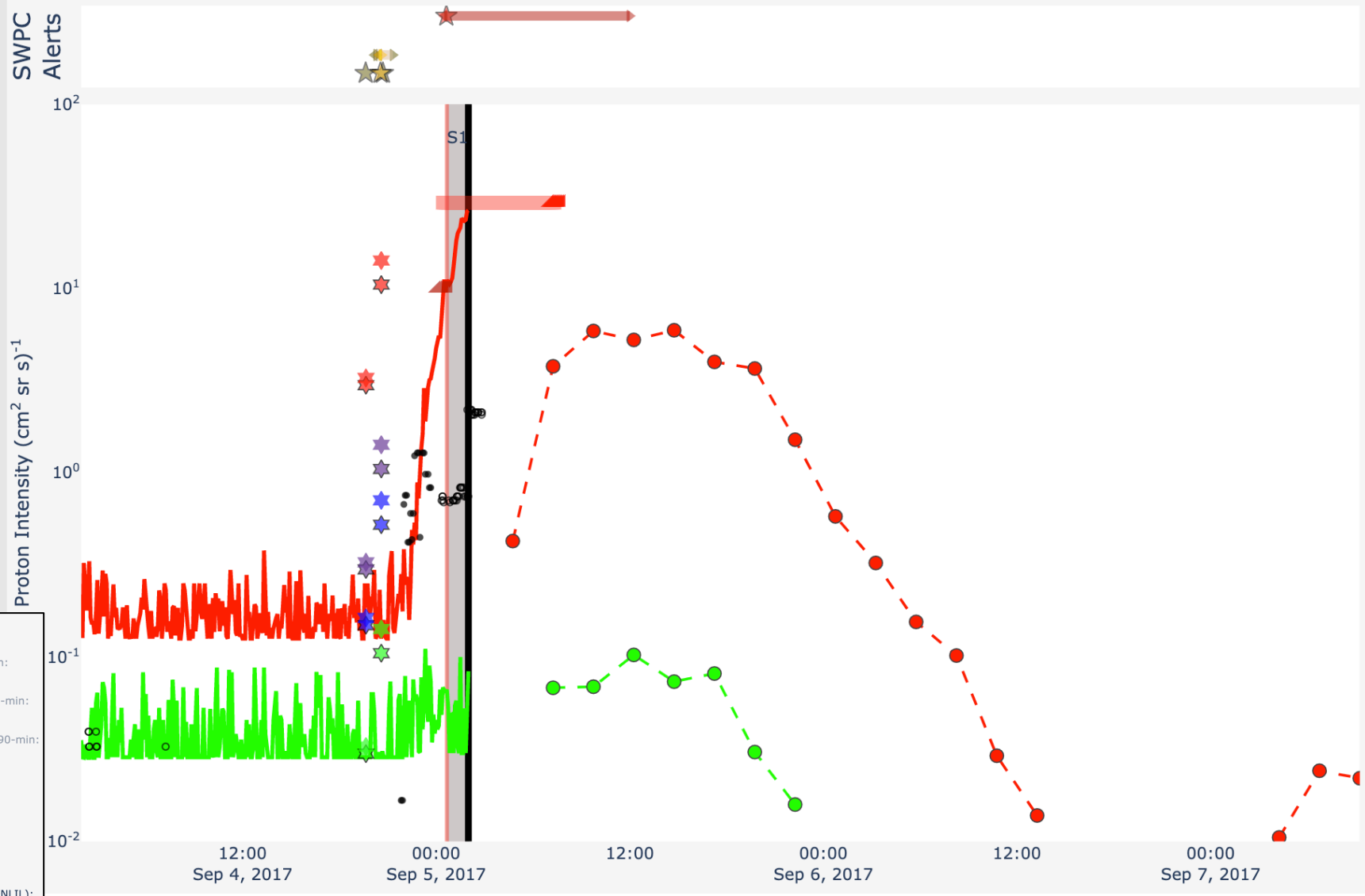
2017-09-002:00 UT

	> 10 MeV	> 100 MeV
GOES	26.6	0.08
SEPMOD	5.9	0.1
SEPSTER	14.2	0.14
STAT	No data	No data
UMASEP	Not Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

selected date/time: 2017-09-05 02:00 UT



GOES: > 10 MeV | GOES: > 100 MeV | HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV | HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV | HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV | SEPMOD-SWPC params: > 10.0 MeV | SEPMOD-SWPC params: > 100.0 MeV | SEPSTER (Parker Spiral): > 10.0 MeV | SEPSTER (Parker Spiral): 14.0 - 24.0 MeV | SEPSTER (Parker Spiral): > 30.0 MeV | SEPSTER (Parker Spiral): > 50.0 MeV | SEPSTER (Parker Spiral): > 100.0 MeV | SEPSTER (WSA-ENLIL): > 10.0 MeV | SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV | SEPSTER (WSA-ENLIL): > 30.0 MeV | SEPSTER (WSA-ENLIL): > 50.0 MeV | SEPSTER (WSA-ENLIL): > 100.0 MeV | UMASEP-10: > 10 MeV

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-05 02:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-002:00 UT

	> 10 MeV	pfu	> 100 MeV	pfu
GOES	26.6		0.08	
SEPMOD	5.9		0.1	
SEPSTER	14.2		0.14	
STAT	No data		No data	
UMASEP	Not Clear		Clear	

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

selected date/time: 2017-09-05 02:00 UT

SWPC Alerts

Proton Intensity (cm^2 sr s)$^{-1}$

10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

S1

SEPMOD-SWPC params >10.0 MeV
4.0 pfu
2017-09-05 17:15:00
peak intensity: 5.89 pfu
issued at 2017-09-05 01:38:00

prediction window duration: 7d 0hr
start: 2017-09-04 00:00:00
end: 2017-09-11 00:00:00
threshold crossing onset: 2017-09-05 04:45:00 (0.001 pfu)

Event Length:
start: 2017-09-05 04:45:00
end: 2017-09-05 14:45:00
threshold: 0.001 pfu
Fluence: 3592500.0 cm^-2

Input CME parameters:

	speed:	half-width:	longitude:	latitude:
(1)	1323 km/s	54	3°	-24°

12:00 Sep 4, 2017 | 00:00 Sep 5, 2017 | 12:00 | 00:00 Sep 6, 2017 | 12:00 | 00:00 Sep 7, 2017

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPMOD-SWPC params: > 10.0 MeV
SEPMOD-SWPC params: > 100.0 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-10: > 10 MeV

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-06 12:15 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

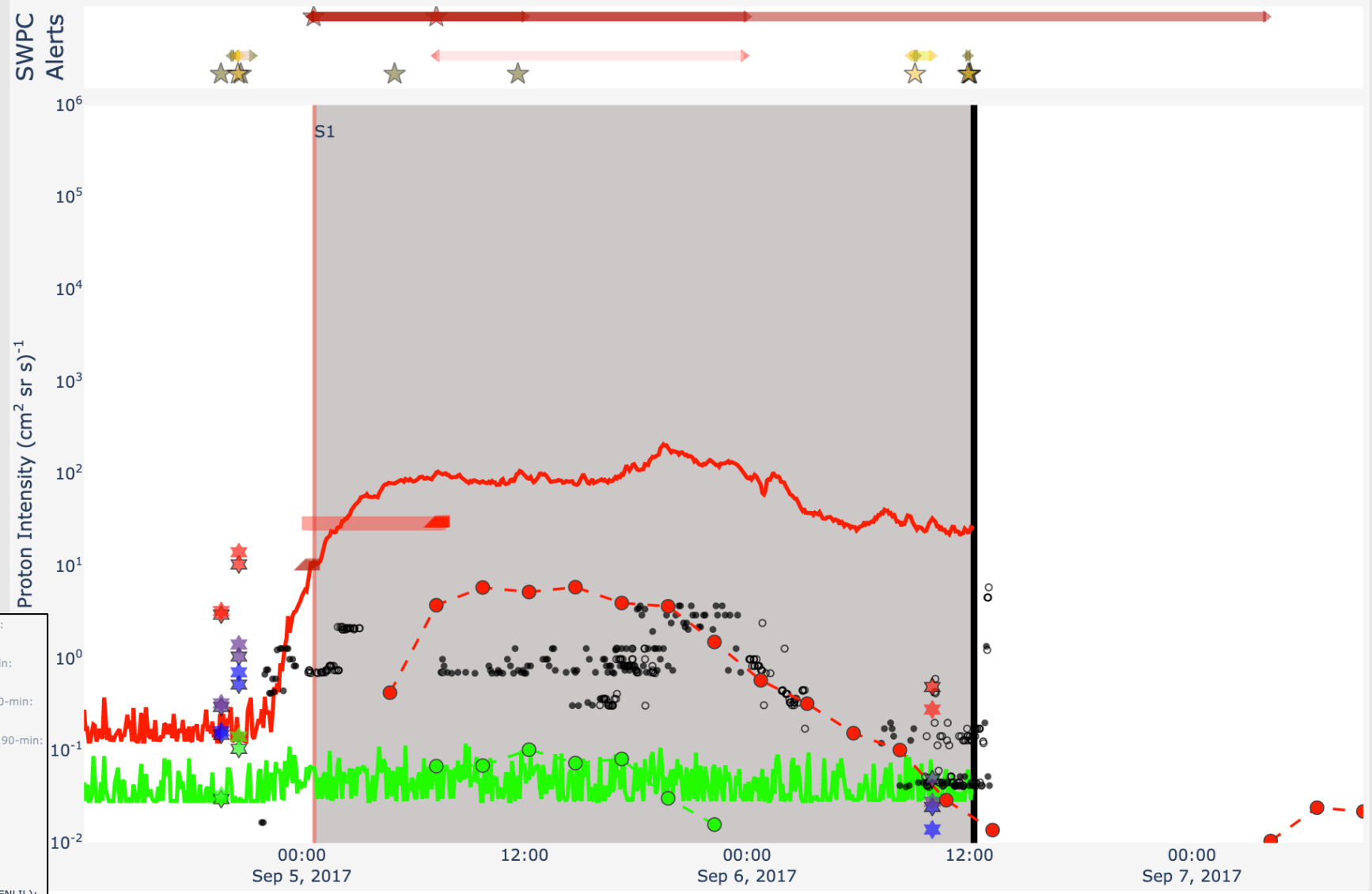
2017-09-012:15 UT

	> 10 MeV	> 100 MeV
GOES	25.8	0.04
SEPMOD	5.9	0.1
SEPSTER	0.5	0.0
STAT	No data	No data
UMASEP	Not Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

selected date/time: 2017-09-06 12:15 UT



GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPMOD-SWPC params: > 10.0 MeV
SEPMOD-SWPC params: > 100.0 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-10: > 10 MeV

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-06 12:51 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-012:51 UT

	> 10 MeV	> 100 MeV
GOES	25.1	0.29
SEPMOD	5.9	0.1
SEPSTER	0.5	0.0
STAT	No data	No data
UMASEP	Not Clear	2.93 ± 0.7

pfu 10^6 10^5 10^4 10^3 10^2 10^1 10^0 10^{-1} 10^{-2} not cle clear no dat

pfu 300 200 100 50 10 1 10^{-1} 10^{-2} 10^{-3} not clear clear no data

GOES: > 10 MeV | GOES: > 100 MeV | HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV | HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV | HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV | SEPMOD-SWPC params: > 10.0 MeV | SEPMOD-SWPC params: > 100.0 MeV | SEPSTER (Parker Spiral): > 10.0 MeV | SEPSTER (Parker Spiral): 14.0 - 24.0 MeV | SEPSTER (Parker Spiral): > 30.0 MeV | SEPSTER (Parker Spiral): > 50.0 MeV | SEPSTER (Parker Spiral): > 100.0 MeV | SEPSTER (WSA-ENLIL): > 10.0 MeV | SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV | SEPSTER (WSA-ENLIL): > 30.0 MeV | SEPSTER (WSA-ENLIL): > 50.0 MeV | SEPSTER (WSA-ENLIL): > 100.0 MeV | UMASEP-10: > 10 MeV

selected date/time: 2017-09-06 12:51 UT

SWPC Alerts

Proton Intensity $(cm^2\ sr\ s)^{-1}$

10^6 10^5 10^4 10^3 10^2 10^1 10^0 10^{-1} 10^{-2}

UMASEP >100 MeV
threshold crossing onset: 2017-09-06 12:50:00 + 2.0 hours
threshold: 1.0 pfu
issued at 2017-09-06 12:50:00

06:00 Sep 6, 2017 | 12:00 | 18:00 | 00:00 Sep 7, 2017 | 06:00

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-06 16:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-016:00 UT

	> 10 MeV	> 100 MeV
GOES	37.3	0.29
SEPMOD	5.9	0.1
SEPSTER	22.3	0.22
STAT	No data	No data
UMASEP	Not Clear	Not Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPMOD-SWPC params: > 10.0 MeV
SEPMOD-SWPC params: > 100.0 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-10: > 10 MeV

selected date/time: 2017-09-06 16:00 UT

SWPC Alerts

Proton Intensity (cm^2 sr s)$^{-1}$

10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

06:00 Sep 6, 2017 | 09:00 | 12:00 | 15:00 | 18:00 | 21:00 | 00:00 Sep 7, 2017 | 03:00 | 06:00 | 09:00

UMASEP >100 MeV
2.93 pfu ± 0.67 at 2017-09-06 18:50:00
issued at 2017-09-06 15:50:00
prediction window duration: 3hr
prediction window start: 2017-09-06 15:50:00
prediction window end: 2017-09-06 18:50:00
threshold crossing onset: 2017-09-06 15:50:00 + 2.0 hours

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-07 02:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-002:00 UT

	> 10 MeV	> 100 MeV
GOES	174.0	0.09
SEPMOD	5.9	0.1
SEPSTER	4.4	0.04
STAT	No data	No data
UMASEP	Not Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

Proton All Clear Forecasts:

4

All Clear

Not All Clear

selected date/time: 2017-09-07 02:00 UT

SWPC Alerts

Proton Intensity (cm^2 sr s)$^{-1}$

10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

06:00 Sep 6, 2017 | 12:00 | 18:00 | 00:00 Sep 7, 2017 | 06:00

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-10 16:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-116:00 UT

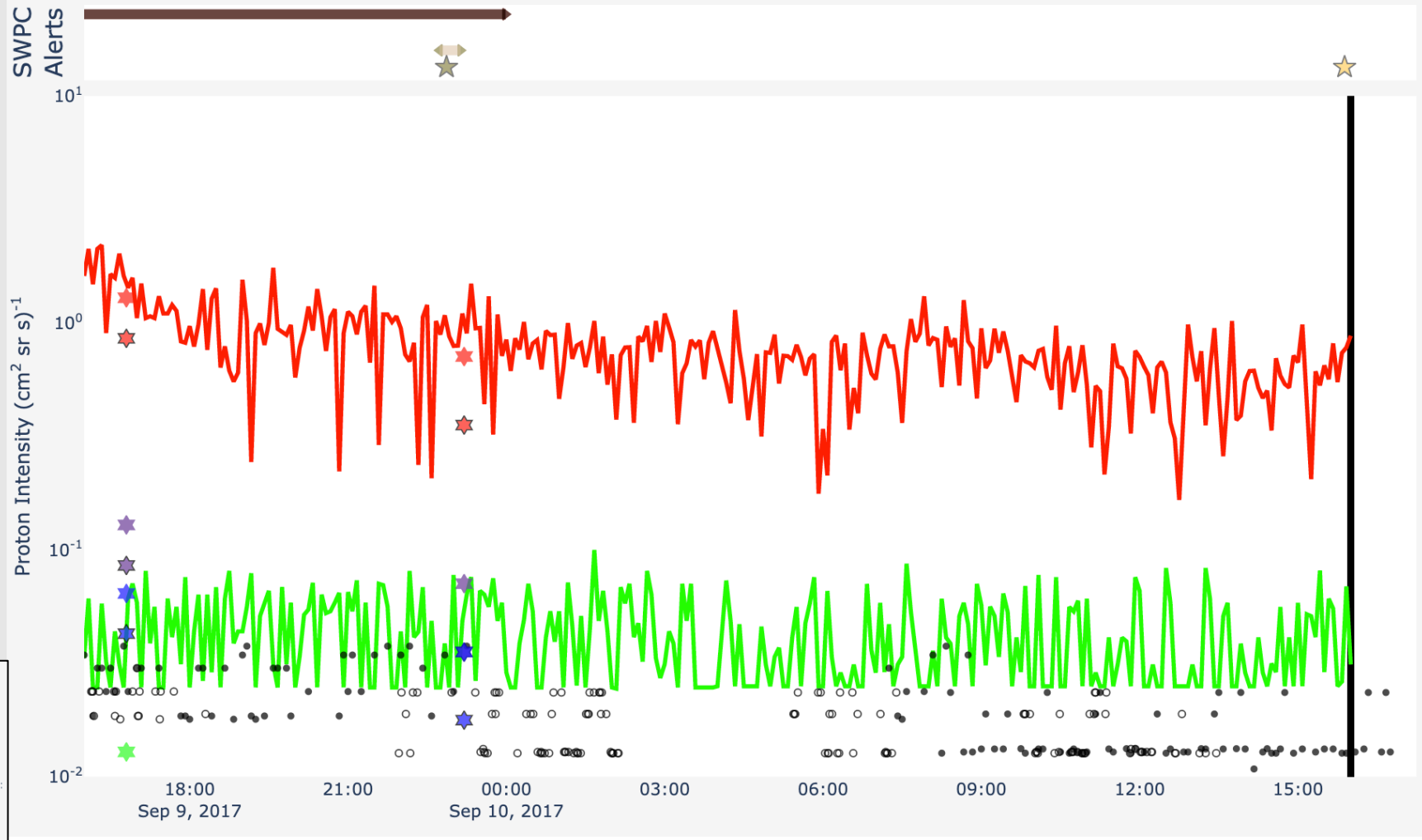
	> 10 MeV	> 100 MeV
GOES	0.9	0.03
SEPMOD	5.9	0.1
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPMOD-SWPC params: > 10.0 MeV
SEPMOD-SWPC params: > 100.0 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-10: > 10 MeV

selected date/time: 2017-09-10 16:00 UT



SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-10 16:20 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-116:20 UT

	> 10 MeV	> 100 MeV
GOES	1.0	0.39
SEPMOD	5.9	0.1
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Clear	2.93 ± 0.7

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

selected date/time: 2017-09-10 16:20 UT

SWPC Alerts

Proton Intensity (cm^2 sr s)$^{-1}$

10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

UMASEP >100 MeV
threshold crossing onset: 2017-09-10 16:20:00 + 2.0 hours
threshold: 1.0 pfu
issued at 2017-09-10 16:20:00

18:00 Sep 9, 2017 | 21:00 | 00:00 Sep 10, 2017 | 03:00 | 06:00 | 09:00 | 12:00 | 15:00 | 18:00

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-100: > 100 MeV

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-10 16:31 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-116:31 UT

	> 10 MeV	> 100 MeV
GOES	3.3	2.52
SEPMOD	5.9	0.1
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	2210.6 ± 508.4	2.93 ± 0.7

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

GOES: > 10 MeV | GOES: > 100 MeV | HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV | HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV | HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV | HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV | HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV | HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV | SEPSTER (Parker Spiral): > 10.0 MeV | SEPSTER (Parker Spiral): 14.0 - 24.0 MeV | SEPSTER (Parker Spiral): > 30.0 MeV | SEPSTER (Parker Spiral): > 50.0 MeV | SEPSTER (WSA-ENLIL): > 10.0 MeV | SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV | SEPSTER (WSA-ENLIL): > 30.0 MeV | SEPSTER (WSA-ENLIL): > 50.0 MeV | SEPSTER (WSA-ENLIL): > 100.0 MeV | UMASEP-100: > 100 MeV | UMASEP-10: > 10 MeV

selected date/time: 2017-09-10 16:31 UT

SWPC Alerts

Proton Intensity (cm^2 sr s)$^{-1}$

10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

100@1

18:00 Sep 9, 2017 | 00:00 Sep 10, 2017 | 06:00 | 12:00 | 18:00

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-10 17:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-117:00 UT

	> 10 MeV	> 100 MeV
GOES	40.4	7.56
SEPMOD	5.9	0.1
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Not Clear	Not Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

selected date/time: 2017-09-10 17:00 UT

SWPC Alerts

Proton Intensity (cm^2 sr s)$^{-1}$

10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

S1

100@1

UMASEP >10 MeV
threshold crossing onset: 2017-09-10 16:30:00 + 2.0 hours
threshold: 10.0 pfu
issued at 2017-09-10 16:30:00

18:00 Sep 9, 2017 | 00:00 Sep 10, 2017 | 06:00 | 12:00 | 18:00

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-100: > 100 MeV
UMASEP-10: > 10 MeV

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-10 18:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-118:00 UT

	> 10 MeV	> 100 MeV
GOES	684.0	24.7
SEPMOD	5.9	0.1
SEPSTER	3590.0	35.9
STAT	No data	No data
UMASEP	Not Clear	Not Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

selected date/time: 2017-09-10 18:00 UT

SWPC Alerts

SEPSTER (Parker Spiral) >10 MeV
2330.0 pfu
issued at 2017-09-10 17:18:00
prediction window duration: 10hr
prediction window start: 2017-09-10 16:09:00
prediction window end: 2017-09-11 02:34:00

Input CME parameters:
speed: 2650 km/s half-width: 54
longitude: 85° latitude: -12°

S1

100@1

Proton Intensity (cm^2 sr s)$^{-1}$

10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

18:00, 21:00, 00:00, 03:00, 06:00, 09:00, 12:00, 15:00, 18:00, 21:00

ep 9, 2017

Sep 10, 2017

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
UMASEP-100: > 100 MeV
UMASEP-10: > 10 MeV

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-10 19:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-119:00 UT

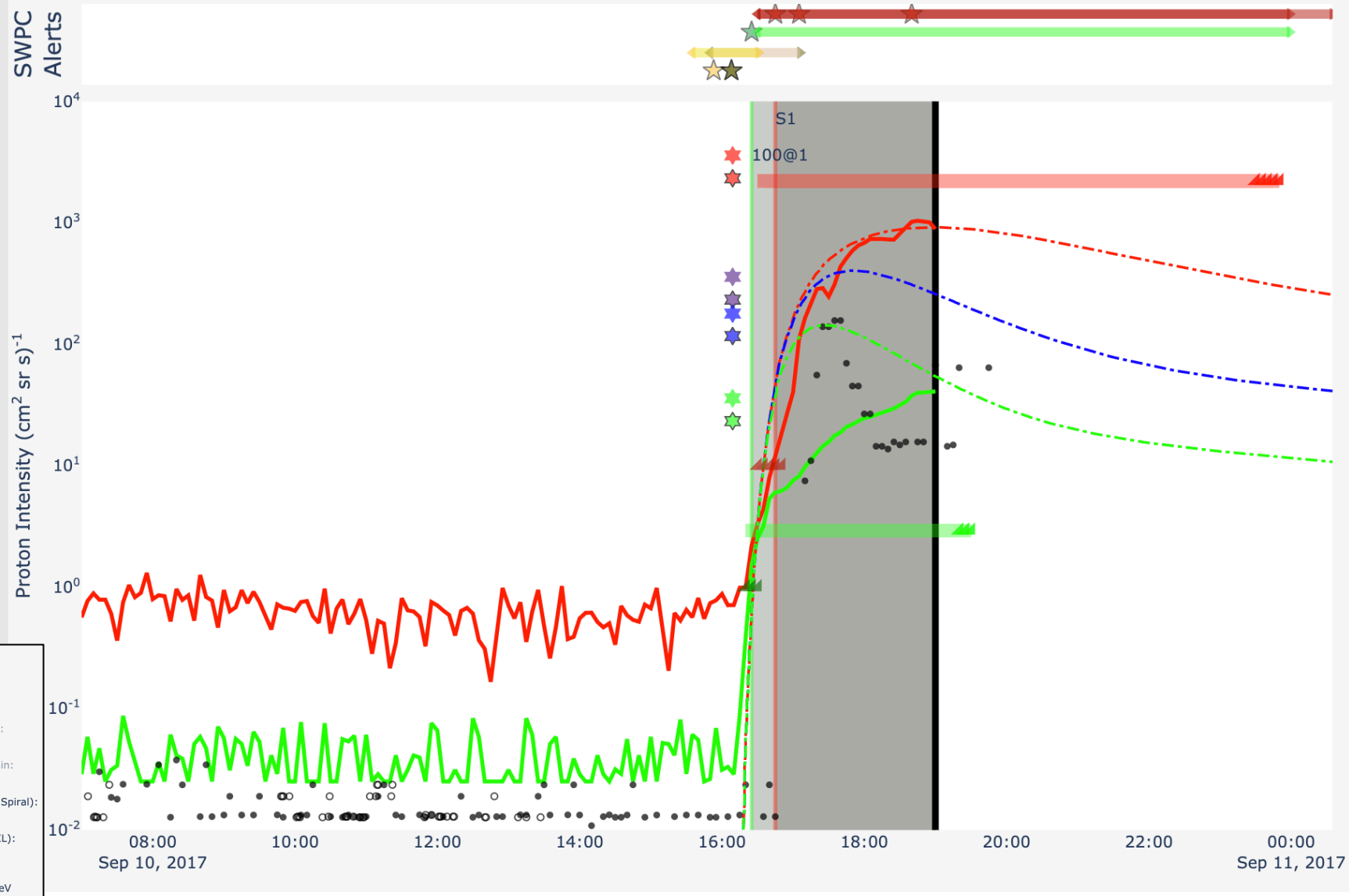
	> 10 MeV	> 100 MeV
GOES	890.0	40.9
SEPMOD	5.9	0.1
SEPSTER	3590.0	35.9
STAT	920.5	143.64
UMASEP	Not Clear	Not Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

GOES: > 10 MeV; GOES: > 100 MeV; HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV; SEPSTER (Parker Spiral): > 10.0 MeV; SEPSTER (Parker Spiral): 14.0 - 24.0 MeV; SEPSTER (Parker Spiral): > 30.0 MeV; SEPSTER (Parker Spiral): > 50.0 MeV; SEPSTER (Parker Spiral): > 100.0 MeV; SEPSTER (WSA-ENLIL): > 10.0 MeV; SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV; SEPSTER (WSA-ENLIL): > 30.0 MeV; SEPSTER (WSA-ENLIL): > 50.0 MeV; SEPSTER (WSA-ENLIL): > 100.0 MeV; STAT: > 10.0 MeV; STAT: > 50.0 MeV; STAT: > 100.0 MeV; UMASEP-100: > 100 MeV; UMASEP-10: > 10 MeV

selected date/time: 2017-09-10 19:00 UT



SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-10 20:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-20:00 UT

	> 10 MeV	> 100 MeV
GOES	558.0	45.7
SEPMOD	210.4	3.6
SEPSTER	3590.0	35.9
STAT	920.5	143.64
UMASEP	Not Clear	Not Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not, clea, no c

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

selected date/time: 2017-09-10 20:00 UT

SWPC Alerts

S1

100@1

Proton Intensity (cm^2 sr s)$^{-1}$

10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

09:00 Sep 10, 2017 | 12:00 | 15:00 | 18:00 | 21:00 | 00:00 Sep 11, 2017 | 03:00 | 06:00 | 09:00

GOES: > 10 MeV; GOES: > 100 MeV; HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV; SEPMOD-SWPC params: > 10.0 MeV; SEPMOD-SWPC params: > 100.0 MeV; SEPSTER (Parker Spiral): > 10.0 MeV; SEPSTER (Parker Spiral): 14.0 - 24.0 MeV; SEPSTER (Parker Spiral): > 30.0 MeV; SEPSTER (Parker Spiral): > 50.0 MeV; SEPSTER (Parker Spiral): > 100.0 MeV; SEPSTER (WSA-ENLIL): > 10.0 MeV; SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV; SEPSTER (WSA-ENLIL): > 30.0 MeV; SEPSTER (WSA-ENLIL): > 50.0 MeV; SEPSTER (WSA-ENLIL): > 100.0 MeV; STAT: > 10.0 MeV; STAT: > 50.0 MeV; STAT: > 100.0 MeV; UMASEP-100: > 100 MeV; UMASEP-10: > 10 MeV

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-11 00:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-100:00 UT

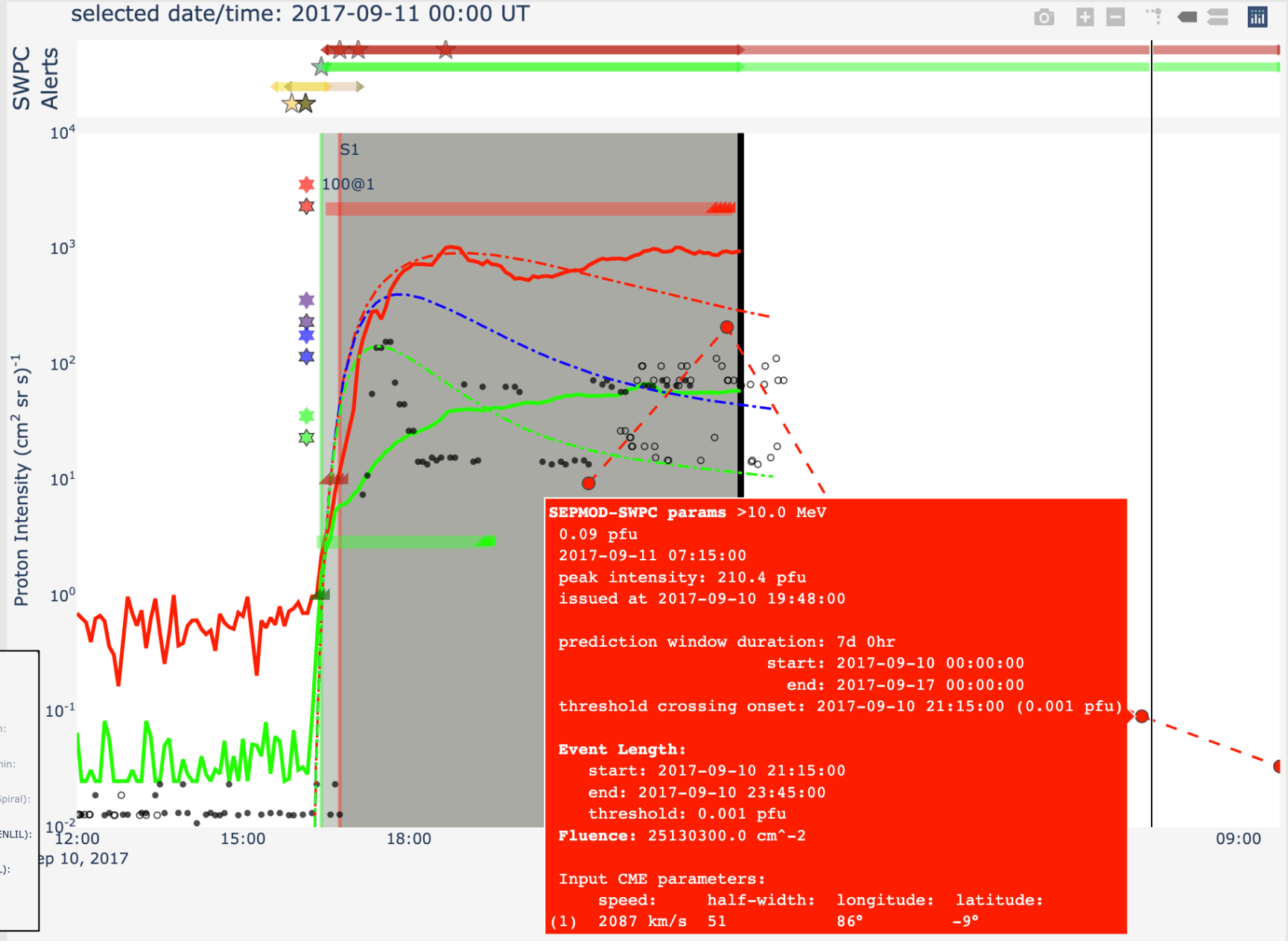
	> 10 MeV	> 100 MeV
GOES	960.0	59.2
SEPMOD	210.4	3.6
SEPSTER	2330.0	23.3
STAT	920.5	143.64
UMASEP	Not Clear	Not Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cle, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

GOES: > 10 MeV; GOES: > 100 MeV; HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV; SEPMOD-SWPC params: > 10.0 MeV; SEPMOD-SWPC params: > 100.0 MeV; SEPSTER (Parker Spiral): > 10.0 MeV; SEPSTER (Parker Spiral): 14.0 - 24.0 MeV; SEPSTER (Parker Spiral): > 30.0 MeV; SEPSTER (Parker Spiral): > 50.0 MeV; SEPSTER (Parker Spiral): > 100.0 MeV; SEPSTER (WSA-ENLIL): > 10.0 MeV; SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV; SEPSTER (WSA-ENLIL): > 30.0 MeV; SEPSTER (WSA-ENLIL): > 50.0 MeV; SEPSTER (WSA-ENLIL): > 100.0 MeV; STAT: > 10.0 MeV; STAT: > 50.0 MeV; STAT: > 100.0 MeV; UMASEP-100: > 100 MeV; UMASEP-10: > 10 MeV

selected date/time: 2017-09-11 00:00 UT



SEPMOD-SWPC params >10.0 MeV
0.09 pfu
2017-09-11 07:15:00
peak intensity: 210.4 pfu
issued at 2017-09-10 19:48:00

prediction window duration: 7d 0hr
start: 2017-09-10 00:00:00
end: 2017-09-17 00:00:00
threshold crossing onset: 2017-09-10 21:15:00 (0.001 pfu)

Event Length:
start: 2017-09-10 21:15:00
end: 2017-09-10 23:45:00
threshold: 0.001 pfu
Fluence: 25130300.0 cm^-2

Input CME parameters:

	speed:	half-width:	longitude:	latitude:
(1)	2087 km/s	51	86°	-9°

SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-12 00:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-100:00 UT

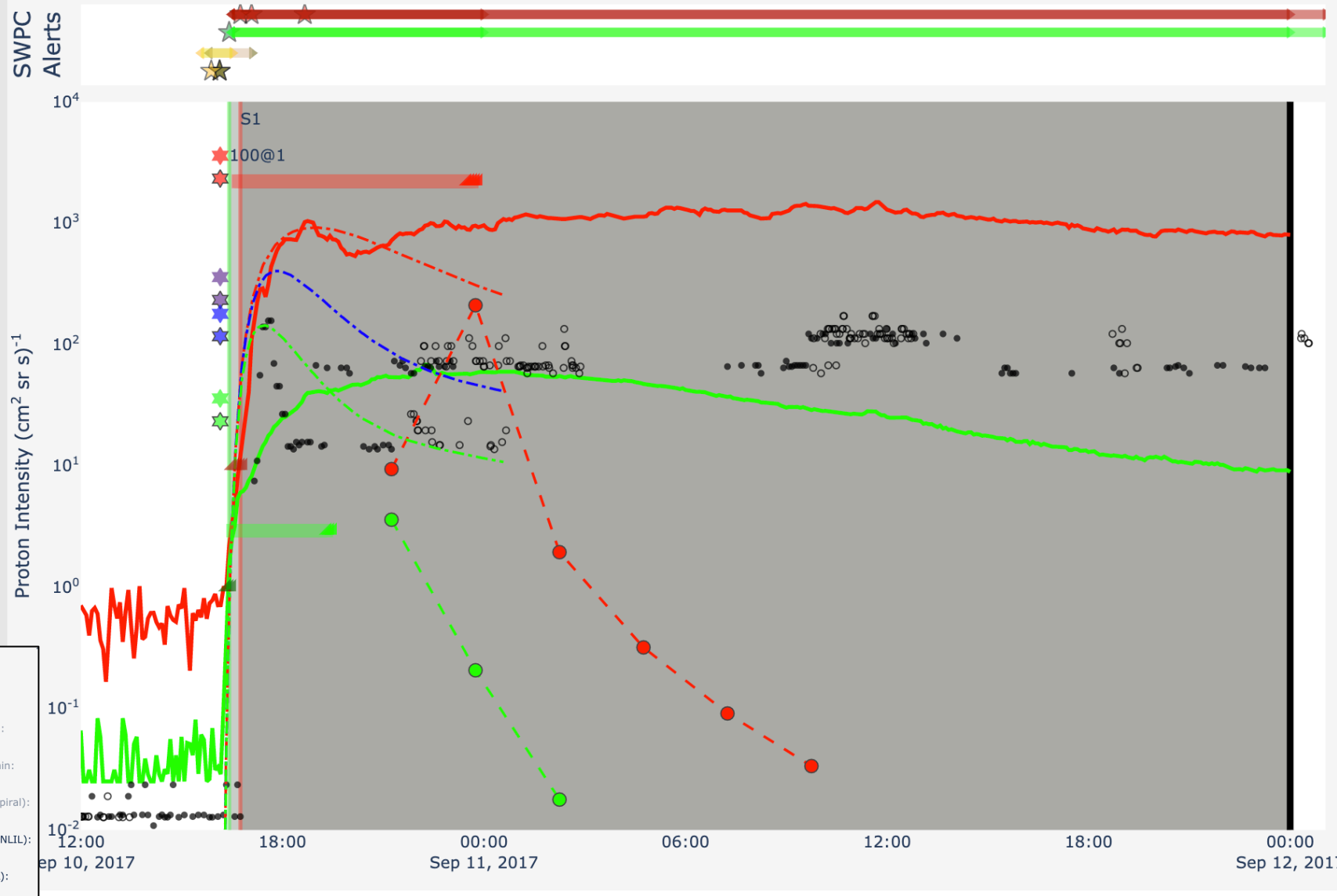
	> 10 MeV	> 100 MeV
GOES	800.0	8.93
SEPMOD	210.4	3.6
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Not Clear	Not Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not cl, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

GOES: > 10 MeV; GOES: > 100 MeV; HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV; HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV; SEPMOD-SWPC params: > 10.0 MeV; SEPMOD-SWPC params: > 100.0 MeV; SEPSTER (Parker Spiral): > 10.0 MeV; SEPSTER (Parker Spiral): 14.0 - 24.0 MeV; SEPSTER (Parker Spiral): > 30.0 MeV; SEPSTER (Parker Spiral): > 50.0 MeV; SEPSTER (Parker Spiral): > 100.0 MeV; SEPSTER (WSA-ENLIL): > 10.0 MeV; SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV; SEPSTER (WSA-ENLIL): > 30.0 MeV; SEPSTER (WSA-ENLIL): > 50.0 MeV; SEPSTER (WSA-ENLIL): > 100.0 MeV; STAT: > 10.0 MeV; STAT: > 50.0 MeV; STAT: > 100.0 MeV; UMASEP-100: > 100 MeV; UMASEP-10: > 10 MeV

selected date/time: 2017-09-12 00:00 UT



SEP Scoreboard

-1 week | -1 day | -1 hour | 2017-09-14 00:00 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2017-09-100:00 UT

	> 10 MeV	> 100 MeV
GOES	64.6	0.3
SEPMOD	210.4	3.6
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Not Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not cl, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

selected date/time: 2017-09-14 00:00 UT

SWPC Alerts

S1

100@1

Proton Intensity (cm^2 sr s)$^{-1}$

10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}

00:00 Sep 10, 2017 | 12:00 | 00:00 Sep 11, 2017 | 12:00 | 00:00 Sep 12, 2017 | 12:00 | 00:00 Sep 13, 2017 | 12:00 | 00:00 Sep 14, 2017

GOES: > 10 MeV
GOES: > 100 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE SOHO 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE SOHO 90-min: 28.2 - 50.1 MeV
SEPMOD-SWPC params: > 10.0 MeV
SEPMOD-SWPC params: > 100.0 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (Parker Spiral): > 100.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 100.0 MeV
STAT: > 10.0 MeV
STAT: > 50.0 MeV
STAT: > 100.0 MeV
UMASEP-100: > 100 MeV
UMASEP-10: > 10 MeV

SEP Scoreboard

Demo: Auto-refresh mode, recent date

-1 week | -1 day | -1 hour | 2020-10-11 00:54 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2020-10-1100:54 UT

	> 10 MeV	> 100 MeV
GOES	0.5	0.44
SEPMOD	No data	No data
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, not clea, clear, no data

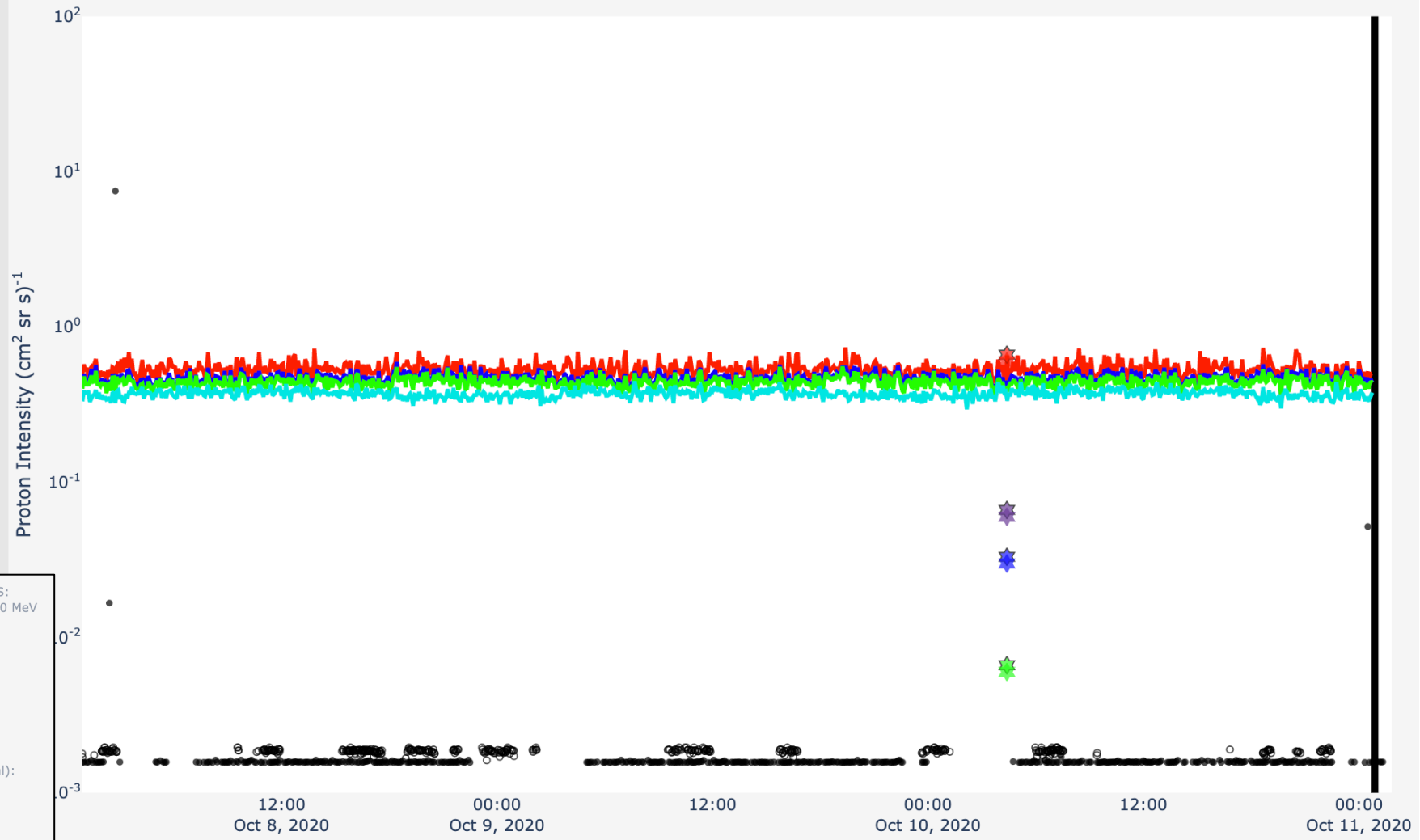
pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3}, not clear, clear, no data

GOES: > 1 MeV
GOES: > 5 MeV
GOES: > 10 MeV
GOES: > 30 MeV
GOES: > 50 MeV
GOES: > 60 MeV
GOES: > 100 MeV
GOES: > 500 MeV
HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV
HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV
HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV
SEPSTER (Parker Spiral): > 10.0 MeV
SEPSTER (Parker Spiral): 14.0 - 24.0 MeV
SEPSTER (Parker Spiral): > 30.0 MeV
SEPSTER (Parker Spiral): > 50.0 MeV
SEPSTER (WSA-ENLIL): > 10.0 MeV
SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV
SEPSTER (WSA-ENLIL): > 30.0 MeV
SEPSTER (WSA-ENLIL): > 50.0 MeV

selected date/time: 2020-10-11 00:54 UT

SWPC Alerts

No Proton/X-ray/Radio alerts to show. Last alert was issued at 2020-10-10 17:39:00.



SEP Scoreboard

Demo: Auto-refresh mode, recent date

-1 week | -1 day | -1 hour | 2020-10-11 00:54 | +1 hour | +1 day | +1 week | Today

Refresh Plots

Proton Intensity Forecasts:

2020-10-100:54 UT

	> 10 MeV	> 100 MeV
GOES	0.5	0.4
SEPMOD	No data	No data
SEPSTER	No data	No data
STAT	No data	No data
UMASEP	Clear	Clear

pfu: 10^6, 10^5, 10^4, 10^3, 10^2, 10^1, 10^0, 10^{-1}, 10^{-2} not cl, clear, no dat

pfu: 300, 200, 100, 50, 10, 1, 10^{-1}, 10^{-2}, 10^{-3} not clear, clear, no data

GOES: > 1 MeV; GOES: > 5 MeV; GOES: > 10 MeV; GOES: > 30 MeV; GOES: > 50 MeV; GOES: > 60 MeV

GOES: > 100 MeV; GOES: > 500 MeV; HESPERIA REleASE ACE 30-min: 15.8 - 39.8 MeV

HESPERIA REleASE ACE 30-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 60-min: 15.8 - 39.8 MeV

HESPERIA REleASE ACE 60-min: 28.2 - 50.1 MeV; HESPERIA REleASE ACE 90-min: 15.8 - 39.8 MeV

HESPERIA REleASE ACE 90-min: 28.2 - 50.1 MeV; SEPSTER (Parker Spiral): > 10.0 MeV; SEPSTER (Parker Spiral): 14.0 - 24.0 MeV

SEPSTER (Parker Spiral): > 30.0 MeV; SEPSTER (Parker Spiral): > 50.0 MeV; SEPSTER (WSA-ENLIL): > 10.0 MeV

SEPSTER (WSA-ENLIL): 14.0 - 24.0 MeV; SEPSTER (WSA-ENLIL): > 30.0 MeV; SEPSTER (WSA-ENLIL): > 50.0 MeV

selected date/time: 2020-10-11 00:54 UT

SWPC Alerts

No Proton/X-ray/Radio alerts to show. Last alert was issued at 2020-10-10 17:39:00.

Proton Intensity (cm^2 sr s)$^{-1}$

10^2, 10^1, 10^0, 10^{-1}, 10^{-2}, 10^{-3}

SEPSTER (Parker Spiral) >10 MeV
0.66 pfu
issued at 2020-10-10 22:25:00
prediction window duration: 8hr
prediction window start: 2020-10-10 04:24:00
prediction window end: 2020-10-10 12:30:00

Input CME parameters:
speed: 270 km/s **half-width:** 15
longitude: 89° **latitude:** 3°

12:00 Oct 8, 2020; 00:00 Oct 9, 2020; 12:00; 00:00 Oct 10, 2020; 12:00; 00:00 Oct 11, 2020