

## PUNCH CONNECT:

# COmmunity Nexus for Noteworthy Event Context and Tracking

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Barbara Thompson, NASA Goddard Space Flight Center

Sarah Kovac, NSF NCAR

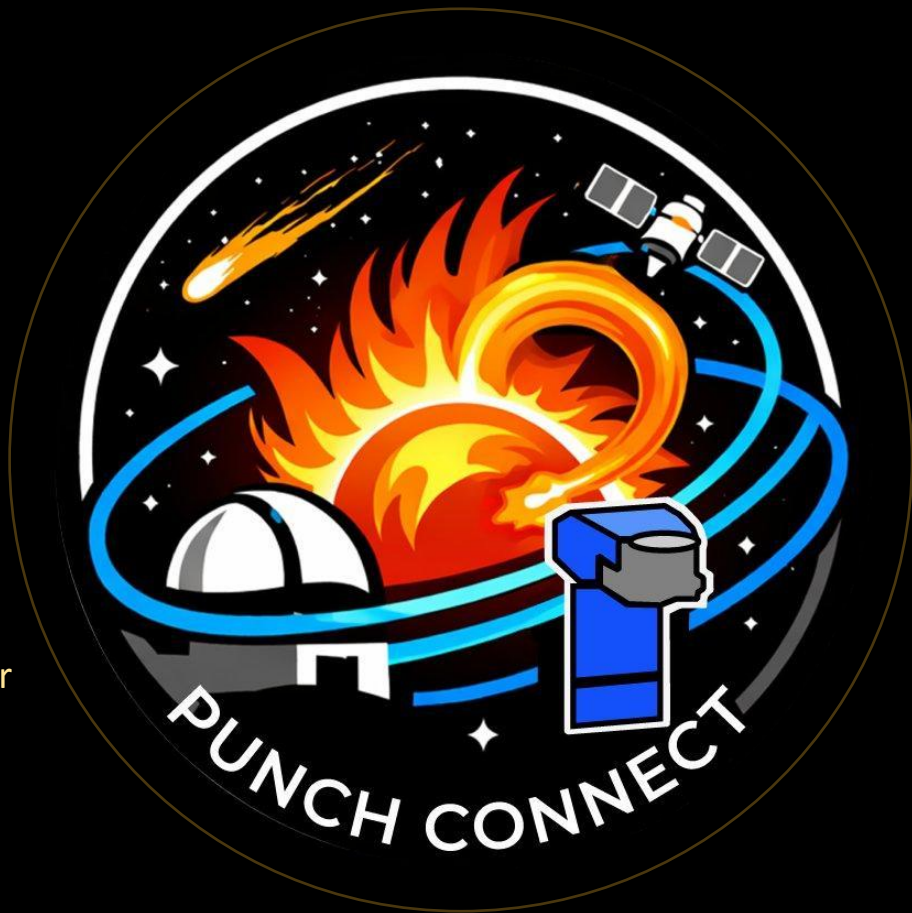
Raphael Attie, GMU

Heather Elliott, SWRI

Sarah Gibson, NSF NCAR

Anna Malanushenko, NSF NCAR

David Webb, Boston College










## ABOUT PUNCH CONNECT

# PUNCH CONNECT is a way to coordinate analysis around events of interest.

CMEs, comets, and other phenomena observed by PUNCH are even more compelling when combined with other data and models!

The goal of PUNCH CONNECT is to support community-based analysis of events and phenomena by combining PUNCH with complementary observations and simulations.

*PUNCH CONNECT allows you to:*

-  Flag events you'd like to see more attention on.
-  See who else is interested in the same event.
-  Participate in the coordinated examination of PUNCH data, complementary data, and models.
-  Get help from the PUNCH team if you want it.
-  Share what you find via Science Nuggets, the PUNCH website, and the Community Sandbox.

*If you're curious, start with the survey or check the calendar.*



# Who's involved



## Event leaders

Each event needs at least one leader to coordinate the effort. Leaders are typically identified by volunteering.

Some events may benefit from multiple leaders, it is up to the lead coordinator to determine whether they want additional help.



## PUNCH Connect Team

The PUNCH Connect Team identifies events from the suggestions, confirms the leaders of the event, and assists in the effort.

The PUNCH Connect team can also help with data access, calibration questions, and analysis.



## The Research Community

Each PUNCH Connect event is different, but all have one thing in common: skilled scientists who bring additional observations and models to broaden the coverage, strengthen the interpretation, provide context, and pose exciting new questions.



## Everyone else

The whole PUNCH community can be involved! You can suggest new events, upvote candidate events, or join in when something catches your eye.

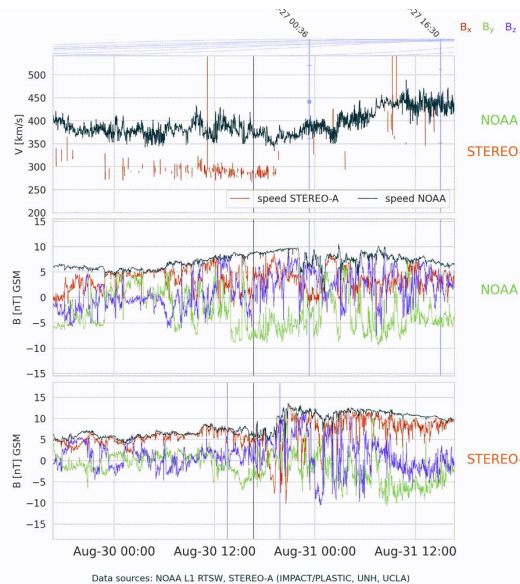
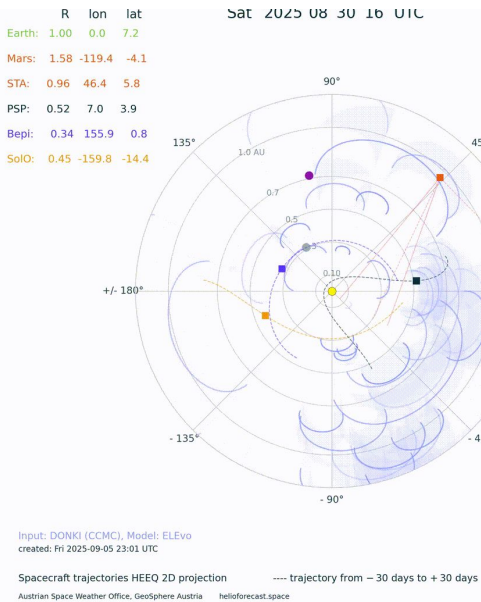
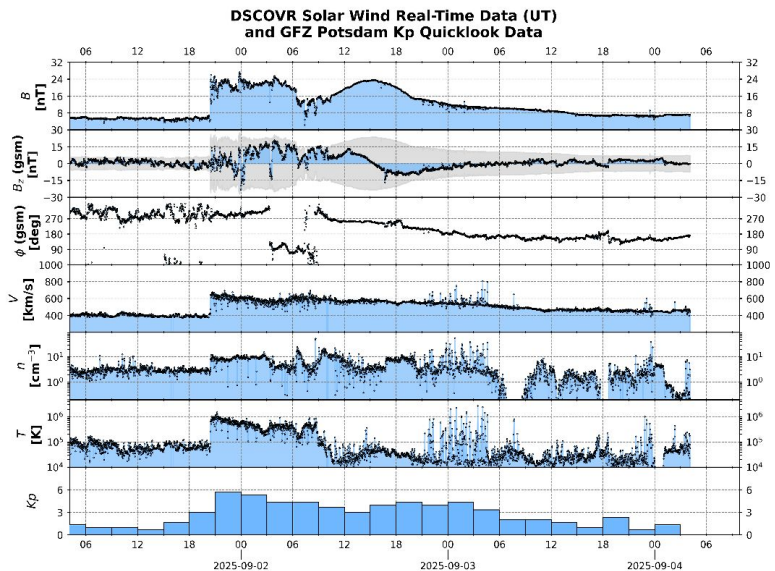


# Examples of PUNCH Connects

(Invited Talk) Ensemble modeling of 30 August 2025 CME in the inner heliosphere and comparison with multi-spacecraft observations

Elena Provornikova, JHU APL

- 30 Aug - 2 Sep 2025 ([PUNCH Sandbox #2](#))



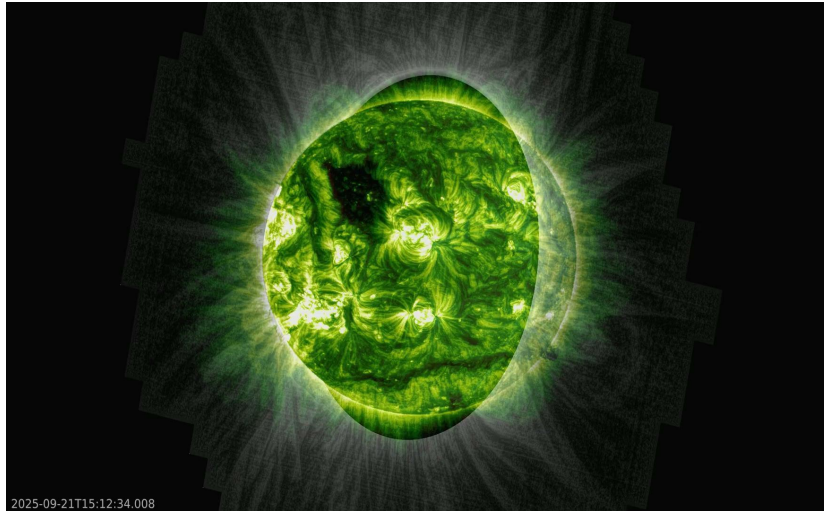


# Examples of PUNCH Connects

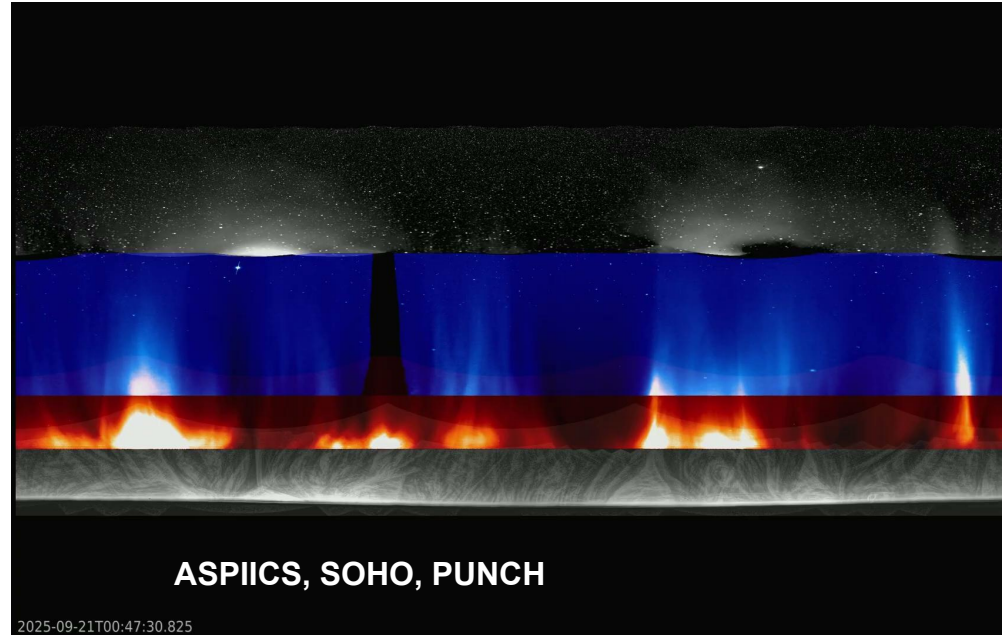
(Invited Talk) Probing realistic CME model with the Icarus heliosphere model and PUNCH observations

Tinatın Baratashvili, Centre for mathematical Plasma Astrophysics, KU Leuven

- 21-22 Sep 2025 (Gibson Science talk; Patel flash talk; de Leo polarization talk Wednesday, etc.)



ASPIICS, SOHO, PUNCH



ASPIICS, SOHO, PUNCH



# Examples of PUNCH Connects

Analysis of Halo CMEs with PUNCH Observations

David Webb, ISR/Boston College

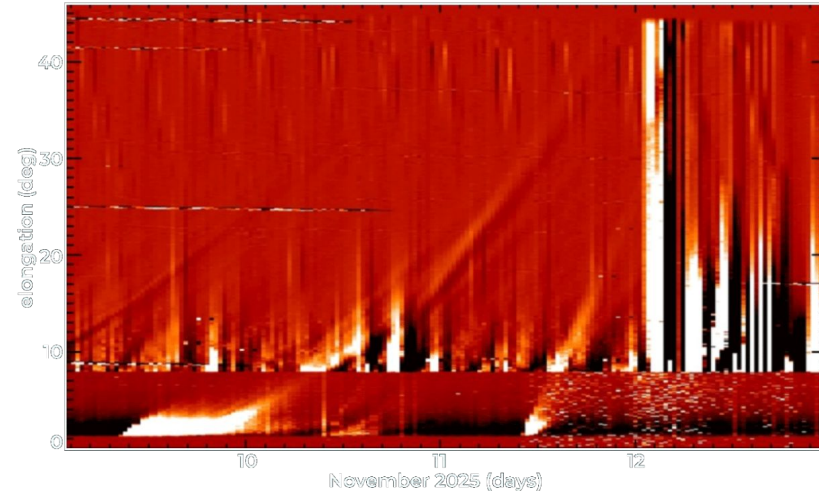
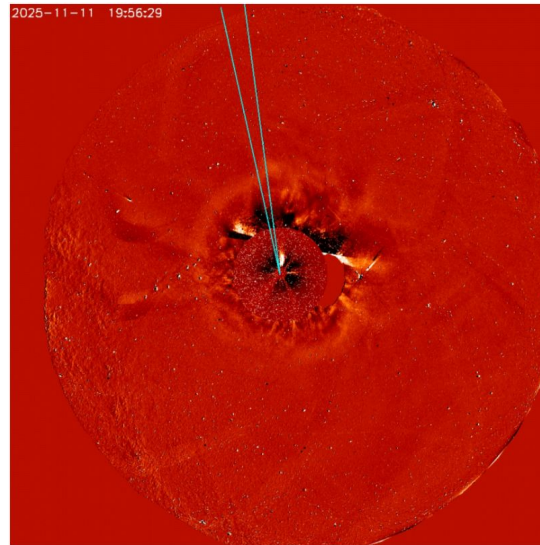
PUNCH observations of CME shocks and associated particle acceleration

Mihir Desai, Southwest Research Institute, San Antonio TX

Interaction-Driven Sheath Formation and Geoeffectiveness of Successive CMEs

Shirsh Soni, University of Iowa

- 11-12 Nov 2025 ([PUNCH Nugget](#))

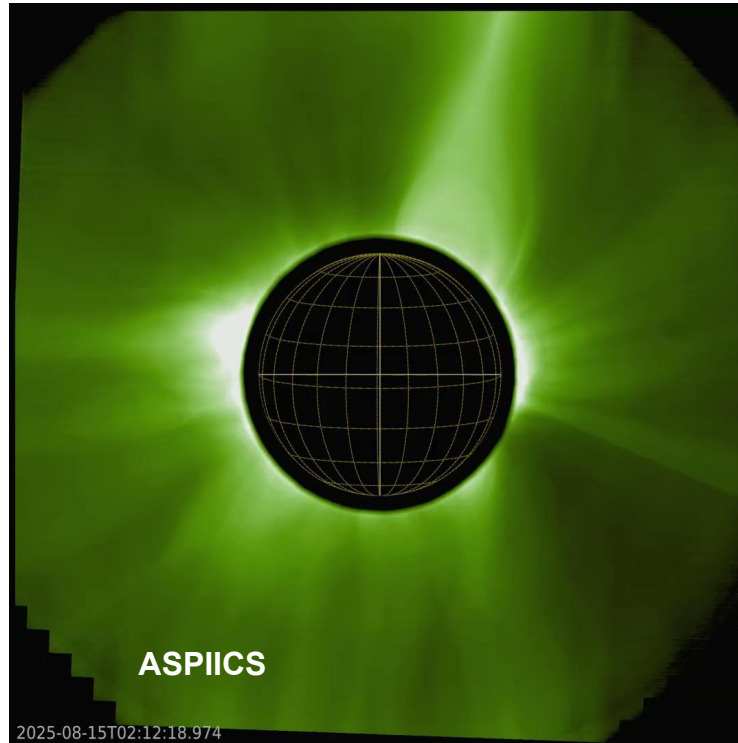




# Examples of PUNCH Connects

Leveraging an alignment of PUNCH, CODEX and Metis to reveal the outflow and acceleration of the solar wind

Nicholeen Viall, NASA Goddard Space Flight Center



15 August 2025

- Solar Orbiter – Earth : superior conjunction
- SoO @0.63 au, 7° from the ecliptic
- Metis FOV: 3.8-6.9 R<sub>sun</sub>
- Metis Observing Programs : Synoptic (1 pB + 1 UV; cadence 1800 s; binning 4x4) + Synoptic (1 pB + 1 UV; cadence 120 s; binning 2x2)
- ASPIICS Observing Program : CME Watch, WBF every 30s (3 exposures) + all filters every 5 min



# How a PUNCH CONNECT event unfolds.



PHASE 1

## Identify

You can identify events worth looking at together and suggest them as PUNCH CONNECT events.

The PUNCH data calendar will allow you to browse PUNCH data and associated datasets.



PHASE 2

## Choose & launch

Each PUNCH CONNECT activity needs a leader or leaders. The leaders determine how the communication and coordination happens. For example, they can kick off with an informal show & tell between interested participants.



PHASE 3

## Coordinate

The PUNCH Connect event leader facilitates the effort through regular communication, ongoing meetings, shared analysis, and discussions, for as long as they deem it useful.



1

# Identify events

*Surfacing interest and capturing candidate events.*



## Calendar

PUNCH movies and other mission data availability. Possible upvote signatures and searchable filtering above a threshold; survey input feeds in here.



## Survey form

Low barrier to entry: name an event, indicate interest, or just upvote. Asks who plans to work on it, what they'd do, and whether they'd team up. Respondents are added to the announcement list.



## Spread the word

Mention the capability and PUNCH CONNECT in general at meetings and in the newsletter. The survey link and calendar are the entry routes.



## Options spreadsheet

Everything in one place, fed by the survey (and manual entries when needed), with upvote info attached.



# What the survey asks

1

**What event, and where in PUNCH data?**

*Free text — name, dates, where to find it.*

2

**Anything about relevant models or simulations?**

*Free text — known runs, candidates for new ones.*

3

**Are you planning to work on this event?**

*Yes / No / Maybe — the only required field.*

REQUIRED

4

**If so, what would you (and colleagues) be doing?**

*Free text — informal description of your angle.*

5

**Interested in teaming up with others?**

*Yes / No / Maybe.*

*Submitting the form also counts as your upvote. Respondents are added to the announcement list.*



# PUNCH Calendar (in Development)

**PUNCH** Polarimeter to UNify the Corona and Heliosphere

Home About Science Media Outreach

## PUNCH DATA CALENDAR

Choose your preferred PUNCH data type and cross-check against other added datasets if desired:

PAM  CAM  [Add Datasets -](#)

Calendar shows **Clear Average** by. Information about data product availability a **UT PUNCH DATA.**

**PUNCH data:**  Latest version  Som versions only

- Halo CME Events
- MLSO K-Cor Data
- Metis Data

[Add All](#) [Clear All](#) Data range

**Added datasets:**  MLSO K-Cor data  Metis data

[Data Access Statement and Additional Resources](#)

< 2026 >

**January**

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

**February**

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

**March**

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**April**

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		



2

## Choose & launch events

*From candidate list to a running study with a few people around it.*



**STEP 1**

### Go through the list

A small group goes through the options spreadsheet and the upvotes on the webpage. Ad hoc — no formal process.



**STEP 2**

### Check for interest

Meet or email the interested folks. Move ahead when there's real interest and at least one volunteer leader.



**STEP 3**

### Kickoff: show & tell

Online meeting, sandbox-style. Sketch out scope, key times, what data and models are in play. The optional template can be filled in live if it helps.



**STEP 4**

### Announce it

Add to the short list with leaders named. Share via a PUNCH Nugget, email to the announcement list, and an event page with slides, contacts, and a mailing-list signup.



3

## After the kickoff

*Keeping the work moving once an event is running.*



### Ongoing meetings

Organized by event leaders. PUNCH team folks join when data-analysis help is wanted.



### Web visibility

Highlights on PUNCH web pages — general and event-specific. Publications and presentations show up here.



### PUNCH Nuggets

A recurring channel for sharing event findings with the broader community.



### Community Sandbox

Where more mature work moves once it's ready to share more widely.



# Where you might fit in

*A few ways into PUNCH CONNECT*



Already studying CMEs, comets, transients or another phenomenon in PUNCH data? ?

**Suggest an event to PUNCH Connect.**



Do you perform theoretical models or simulations?

**Join in.**



Working with complementary data?

**Plug in your dataset.**



Just curious?

**Stay tuned - soon you may be able to participate through upvoting and sandbox activities.**

*Even general interest counts.*