

# Python in Heliophysics Community Spring 2022 Meeting

May 16th, 2022 - May 19th, 2022

*Meeting materials are located at <http://heliopython.org/meetings/>*

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# Participants

70 people registered to participate in the virtual spring 2022 meeting via the meeting's Google sign up form. Meeting participants' home institutions (as indicated by responses to the Google sign up form) included the following:

- NASA GSFC
- Applied Physics Laboratory
- University of Turku, Finland
- University of Edinburgh
- LASP | CU Boulder
- KU Leuven
- University of Lagos
- NASA/Scientific Visualization Studio
- Prithvi Narayan Campus, Tribhuvan University
- JHU Applied Physics Lab
- Bulgaria Academy of Science
- Institute of Astronomy, Bulgarian Academy of Sciences
- Marshall Space Flight Center, NASA
- UCLA EPSS
- NASA MSFC
- NASA CCMC
- SAO
- Yale University
- University of Science and Technology of China
- UNH
- INPE, Brazil
- Smithsonian Astrophysical Observatory
- Instituto Politécnico Nacional (MX)
- information technology institute
- UNAM
- Ilia state university, Georgia.
- St. Albert's College, Cochin, Kerala, India
- GSFC / General Dynamics Mission Systems
- Predictive Science Inc.
- University of Calgary
- INAF OATs
- UCL
- UCLA
- NASA Goddard Space Flight Center/ Catholic University of America
- NASA/MSFC
- Columbia U.
- NJIT

- BAERI/LMSAL/SunPy
- SwRI Boulder
- Center for Astrophysics | Harvard & Smithsonian
- Orion Space Solutions | NASA
- European Space Agency
- Indian Institute of Astrophysics
- Stoneris LLC
- AU

## Meeting Overview

The spring 2022 meeting was spread over a four-day period, with each daily session running a two-hour period (from 9 AM - 11 AM MT). As with prior virtual meetings, the meeting organizing committee chose to use the Zoom platform as Zoom is familiar to PyHC members (it is already in use for the bi-weekly PyHC telecons), it consistently provides good quality video and sound, and lends itself nicely to large group video calls and breakout rooms. Days 1, 2, and 4 were recorded, with links uploaded to [the meeting web page](#) after each day. Eventually, in place of links to Zoom recordings the Zoom recording itself will be saved on the meeting Google Drive (the link will eventually expire).

The meeting began Monday, May 16th, 2022 and ended Thursday, May 19th, 2022. Content of each day was as follows:

- Day 1: Updates from the PyHC core projects (as well as a SkyWinder project update)
- Day 2: Presentations and demos (EMToolKit Update, HERMES SOC intro, pysatMissions intro, Overview of the Space Collection, and a paper presentation from Shawn Polson)
- Day 3: Hackathons to improve areas of PyHC packages, as well as improve the PyHC website (pySPEDAS, SunPy, xarray support in pysatNASA via cdflib, improve project keyword usage, improve PyHC website's home page, and PlasmaPy notebooks)
- Day 4: Presentations and discussions (hackathon results, future funding opportunities discussion, and a discussion of applications of best practices/standards, and package admission process), as well as a meeting wrap-up.

See [the hackathon spreadsheet](#) for topics workshopped. [General conference notes](#) were taken by the PyHC group as a whole. All presentation slides (core project updates, tutorials, etc.) were collected and put into the [Presentations folder](#) on the meeting's Google Drive.

# Conclusions and Future Work

The two-hour per day time frame that has worked well in the past continued to be well received for the spring 2022 meeting. As stated in a previous report, participants felt that a two-hour long Zoom session was enough to pique interest/drive meaningful discussions, while not running too long and leaving one feeling burnt out. The only session which would have benefited from *more* time was the hackathon session. One big takeaway from the meeting is that if we are to hold a future PyHC summer school, we should consider canceling a spring meeting. This was a lot of effort to both put together reports and presentations for this meeting, as well as having to plan for the larger, inaugural PyHC 2022 summer school to take place later on this month.

Several telecon ideas came to fruition as the meeting progressed, especially with respect to discussions that occurred on Day 4 of the meeting. These ideas will be taken into consideration in putting together a telecon schedule in the near future.

- Confirmed upcoming telecons
  - June 13th - PyThea intro + Decadal Survey White Paper Refresher?
  - June 27th - HDEE intro + ??
- Potential future topics
  - HDEE intros/finish up wrap ups
  - Conversation about our practices on long-term support (LTS) releases (especially w.r.t. core packages)
  - Use telecon time to continue hacking tutorials?
  - Continue Decadal Survey White Paper discussions

The situation with COVID-19 is in a bit of a flux at the moment. While the situation is improving, it is hard to say if the fall 2022 meeting will be able to have an in-person component. As such, a decision on all virtual vs. hybrid will be made later in the year. Regardless of the format, the meeting will occur sometime in early-to-mid November. We plan to continue to hold telecons on an approximately bi-weekly cadence, as schedules and holidays allow. Other meeting information:

- Inaugural PyHC 2022 Summer School
  - Registration is closed now, but you can follow along with presentations on the YouTube livestream:  
<https://www.youtube.com/playlist?list=PLDKhoNyHGTFZ345-II-EeC4CAQhNUfUS0>
- PyHC AGU 2022 session proposal submitted
  - Requested hybrid talk session
  - Likely to hear back over the summer on session acceptance status

# Final agenda

Mon, May 16, 2022	9:00	9:05	0:05	Presentation	Welcome, Introduction, etc.
Mon, May 16, 2022	9:05	9:25	0:20	Presentation	pySPEDAS update
Mon, May 16, 2022	9:25	9:45	0:20	Presentation	PlasmaPy update
Mon, May 16, 2022	9:45	10:05	0:20	Presentation	SpacePy update
Mon, May 16, 2022	10:05	10:25	0:20	Presentation	SunPy update
Mon, May 16, 2022	10:25	10:45	0:20	Presentation	pysat update
Mon, May 16, 2022	10:45	11:00	0:15	Presentation	SkyWinder update
Tues, May 17, 2022	9:00	9:05	0:05	Presentation	Quick intro to the day's activities
Tues, May 17, 2022	9:05	9:15	0:10	Presentation	EMToolKit Update
Tues, May 17, 2022	9:15	9:45	0:30	Presentation	HERMES SOC intro
Tues, May 17, 2022	9:45	10:05	0:20	Presentation/ Demo	pysatMissions intro
Tues, May 17, 2022	10:05	10:25	0:20	Presentation	Overview of the Space Collection
Tues, May 17, 2022	10:25	10:40	0:15	Presentation/ Demo	Paper presentation
Tues, May 17, 2022	10:40	11:00	0:20	Presentation	Day 3 Hackathon Intros
Wed, May 18, 2022	9:00	9:10	0:10	Discussion	Quick intro to the day's activities/Hackathon Organization
Wed, May 18, 2022	9:10	11:00	1:50	Hackathon	
Thurs, May 19, 2022	9:00	9:05	0:05	Presentation	Quick intro to final day's agenda
Thurs, May	9:05	9:35	0:30	Presentation	Hackathon results

19, 2022					
Thurs, May 19, 2022	9:35	10:05	0:30	Discussion	Funding Discussion
Thurs, May 19, 2022	10:05	10:50	0:45	Discussion	Project Discussion
Thurs, May 19, 2022	10:50	11:00	0:10	Discussion	Wrap Up/Meeting Announcements