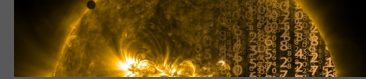


## Instant Messaging Apps (Slack, Teams, Discord, ...)

- Ephemeral & synchronous
- Poorly scalable / searchable
- Mentally exhausting



## Helionauts.org

- Permanent & asynchronous
- Scalable & searchable
- Designed for heliophysics

# HERMES Core & Instrument Packages



- The Heliophysics Environmental and Radiation Measurement Experiment Suite (HERMES) Science Operation Center (SOC) has developed open-source software for reading, writing, and processing space physics data which will be saved using Common Data Format (CDF) data files
- CDF files can store data and metadata in a variety of formats while following ISTP guidelines. HERMES has 4 instruments and consistency across all of the data files is important.
- HERMES Python packages enable easier access to HERMES data and CDF data files in general

## Automated Metadata Attribute Derivations

alleviates need for skeleton CDF files

## Diverse Well-Defined Data Structures

enable faster and more available calibration and analysis

Currently HERMES specific, but tools can be made abstract and available to the community for other missions

## CDF Schema Encoded as YAML

enables fast validation for ISTP compliance

## Visualization and Plotting Tools

for better understanding and analysis of data

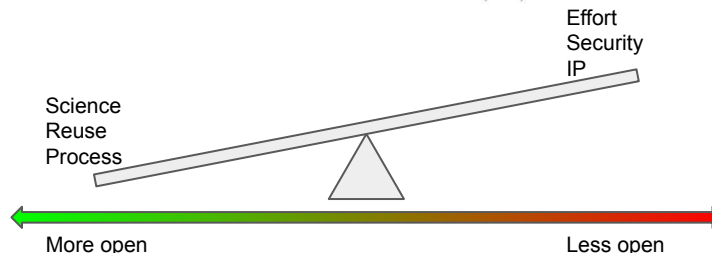
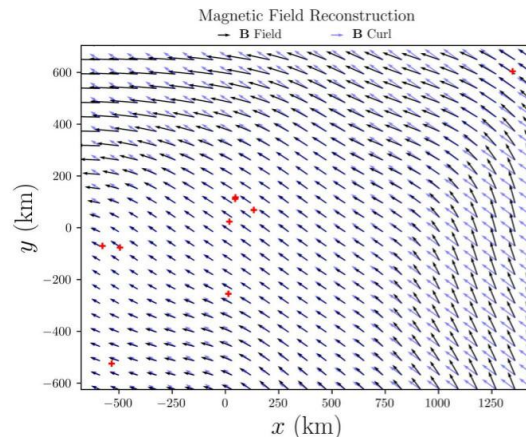
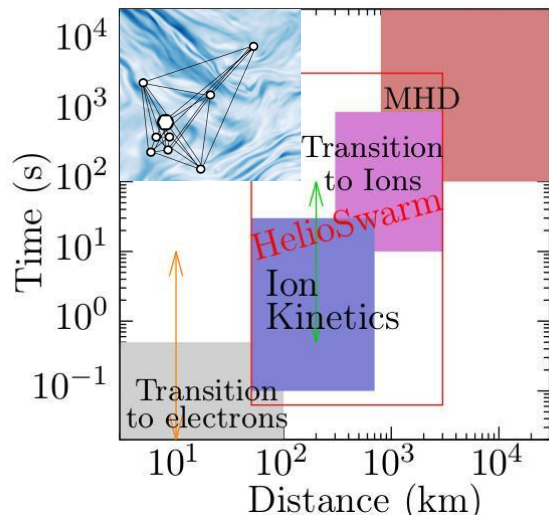


Find us on Zenodo!

# HelioSwarm and open missions



We are early in the “open mission” era—how does a mission in development leverage open science and open development in light of other requirements?



# Sunxspex: A High-energy Spectral Analysis Tool in Python

K. Cooper (coop0502@umn.edu), D. Ryan, S. Maloney, L. Hayes, S. Mumford, I. Hannah, A. Shih, W. Barnes, N. Bajnokova, W. Setterberg

Spectral fitting software	OSPEX	XSPEC	Sunxspex
Solar data product optimised	Green	Red	Green
Simple install & open source	Red	Red	Green
Solar specific models	Green	Orange	Green
Simultaneous fitting	Red	Green	Green
Adaptable fitting stat./methods	Red	Green	Green
Adaptable sampling methods	Red	Orange	Green



## Other posters

- Jerry Song: ARTS web interface