International Heliophysics Data Environment Alliance (IHDEA): An Introduction

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Events Leading up to the IHDEA

- UN/US International Space Weather Initiative Workshop, Boston College, Chestnut Hill, MA, August 2017
- COSPAR Scientific Assembly, Pasadena, CA, July 2018
  - SPASE and HAPI proposed as metadata and access protocol standards, respectively
- First international heliophysics data environment meeting, hosted by ESAC/ESA, Madrid, October 2018
- Second international heliophysics data environment meeting, AGU, Washington, DC, October 2018
- COPASR Panel of SPASE Weather adopted SPASE and HAPI as their recommended standards, Spring 2019
- Third IHDEA meeting, hosted by NASA GSFC, October 2019

IHDEA: Who Are We?

- Researchers, simulators, information technology experts, developers and data engineers **dedicated to advancing heliophysics* and improving the heliophysics data environment.**
- We are from many different organizations, representing the international heliophysics community.

* IHDEA Charter specifies that "the term heliophysics encompasses all studies of our Sun and its interactions with Solar System objects and beyond, their consequences for and feedback from those objects, including space weather and space climate."

IHDEA: What Are Our Goal and Objectives?

- ***The goal of the IHDEA is to encourage the use of common standards and services in order to enable sharing of data and to enhance science.***
- The IHDEA will propose, discuss, and advocate standards for heliophysics data storage, exchange, and access with the following objectives:
  - Active involvement of international heliophysics and space weather data providers
  - Standards-based data systems with uniform and well-defined terminology
  - Coordinated, user-friendly data access and analysis tools to serve diverse communities
  - Adequate documentation of data products and sources
  - Flexible, interoperable, and interconnected data archives, modeling centers, and virtual observatories
  - Effective communication among national and international partners, data providers, data tool developers, and data users
- The role of the IHDEA is to engage the community, foster communication, and to identify the standards and services which will best serve the science needs.

IHDEA: How Are We Organized?

- The IHDEA is generally governed by its Charter and Bylaws, established along with the formation of IHDEA in December 2019.
- Membership is open to all organizations and individuals who are involved in activities related to the heliophysics domain as defined in the Charter.
- Anyone may request and be granted membership by agreeing to both the IHDEA Charter and these Bylaws. (join by going to https://ihdea.net/)
- The IHDEA is governed by an Executive Committee
  - EC members are typically representatives of major stakeholders.
- IHDEA decisions are passed by unanimous consensus by the EC.
- IHDEA Charter can be revised by EC.
- Changes to IHDEA Bylaws can only be passed by 2/3 majority of all IHDEA members (one vote per person) attending the “next” IHDEA general meeting (members attendance must be recorded in advance of voting).

IHDEA: How Do We Conduct Business?

- Collaborations in and coordination between working groups
  - Metadata standard: SPASE
  - Access protocol: HAPI
  - DOI: NASA-ESA coordination
  - Analysis and display tools: Autoplot, SPEDAS, etc.
  - Others (to be discussed on Thursday)
- Online collaboration platform (to be discussed later today)
- Communication
  - https://ihdea.net
  - ihdea-news@ihdea.net (please subscribe at the IHDEA website)
- Meetings
  - The IHDEA will conduct regular open meetings to discuss and build consensus on standards.