



# **An Overview of SPDF Data and Orbit Services**

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# Space Physics Data Facility (SPDF)

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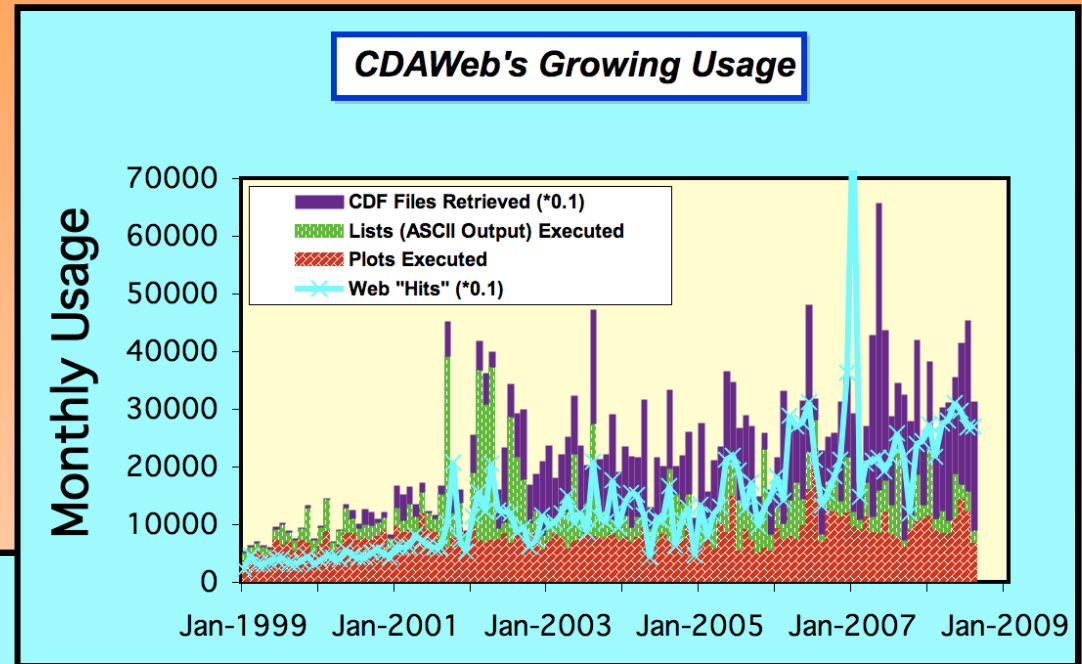
- **SPDF's Charter**
  - Provide unique correlative multi-mission and cross-disciplinary value-added heliophysics data services and special products
  - Ensure maximal clarity in the meaning and appropriate use of data.
  - Provide all data services robustly, with high performance & unique functionality
  - Taking maximum advantage of automation and
  - Taking maximum advantage of distributed capabilities in the broad community
- **Our Services Today**
  - CDAWeb
  - SSCWeb and 4D Orbit Viewer
  - And ...
    - > Common Data Format / CDF (3.2.1)
    - > Virtual Space Physics Observatory / VSPO
    - > OMNIWeb
    - > GIFwalk
- **All SPDF services available from**

**<http://spdf.gsfc.nasa.gov>**

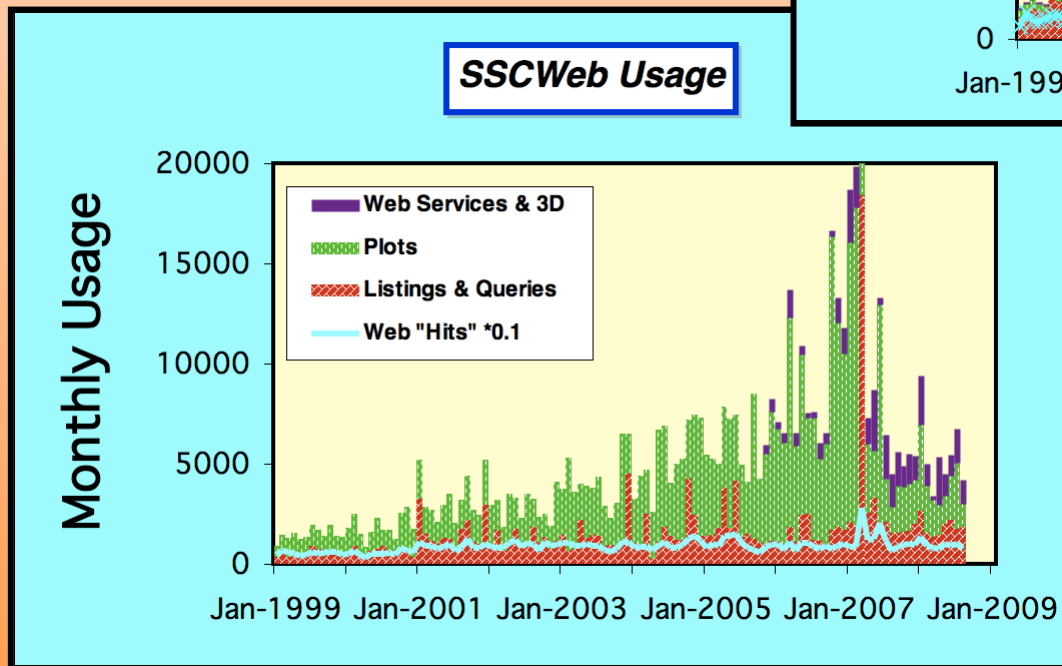


# CDAWeb and SSCWeb Usage

## CDAWeb use by function



**SSCWeb Usage**



## SSCWeb use by function



# CDAWeb

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- **CDAWeb: Physical parameters from most missions**
  - Current data with better quality data as available, with useful services
  - Data/services (plots, listings, subset/superset files) called by web service APIs
- **THEMIS data**
  - ESA - omnidirectional energy spectrograms, ground-processed moments
  - MOM (onboard) – ESA moments (not SST moments) shortly
    - > Upgraded ESA/MOM products with quality/use flags for plasma moments
  - FBK , FGM, FIT, SST, STATE, GMAG (41 stations)
  - EFI, SCM – L2 cdf's to be available by spring 2009
- **Cluster data**
  - Prime Parameters from all instruments except WBD
  - Cluster Archive Parameters: FGM with select others (e.g. CIS) planned
  - Wide-band data being planned
- **STEREO and other data**
  - SWAVES and IMPACT; now beginning work on PLASTIC
  - Working with C/NOFS and TWINS groups
- **Postscript and PDF outputs; Previous/Next plot buttons**



# SSCWeb

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- **SSCWeb: S/C positions in geophysical space**
  - Current and predicted locations, many s/c,
  - Multiple coordinate systems and regions
  - Powerful s/c-s/c and s/c-ground conjunction queries
- **Maintain database with updated orbits and predicts**
  - New s/c (including multiple legacy s/c)
- **4D Orbit Viewer (Java-based 3D Animated)**
  - Draws on SSCWeb database and computational services
  - Multiple s/c, multiple coord systems, pan/zoom/animation
  - Surfaces and ground tracks including ground station locations
  - New “standalone” mode =>

**QUICK DEMO !**



# What's Coming

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- **Maintain quality & scope of primary existing capabilities**
  - Ongoing data flows including value-added datasets like OMNI
  - Server upgrades & migrations; maintenance and security of CDF s/w
  - Cross-discipline location of distributed data resources via VSPO
- **Continue close cooperation with projects/instruments**
  - C/NOFS and TWINS as we've worked with e.g. THEMIS, CAA, STEREO
- **Leverage/complement the capabilities already operating**
  - Increasing use of data & services through other's interfaces (e.g. VITMO)
  - Better links to other's services (e.g. VSPO and APL Datashop)
  - Modernized CDAWeb user interface and ties to Java-based plotting
  - Improved view of available parameters, better ability to overplot data
    - > Improve support for complex instruments and constellations
    - > Important not to complicate the interface with too many options