

The Solar Data Analysis Center and the Virtual Solar Observatory

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SDAC Goals

- To store and serve scientific data from NASA's and NASA partnerships' solar missions to the Internet consistent with NASA's Heliophysics Data Environment Policy.
- To enable discovery and access to similar data distributed around the net.
- To enable research progress by providing high quality, open-source software libraries for reading, reducing, and analyzing those data.

SDAC Functions

- Provision of scientific data services including instrument science operations
- Local archive data intake, management, and service.
- Serves archival or active mission data in scientifically usable form from SMM, Yohkoh, SOHO, TRACE, Hinode, and STEREO.
- Helps distribute data from SDO AIA and HMI via the VSO.
- Creating, maintaining, and enhancing a Virtual Solar Observatory (VSO).
- Enabling scientific research on solar physics data via free software libraries (SolarSoft, SunPy).
- Research and development in the storage and provision of solar physics data.

Responsibilities

| | |
|-------------|---|
| SDAC | <i>SOHO/LASCO science operations STEREO data processing Data storage and provision of solar physics data from multiple operating and completed missions SolarSoftWare (SSW) development</i> |
| VSO | <i>Virtualized data access to local and remote data providers Data provider support API development Client development</i> |

VSO connects



VSO Time / Instrument Search Form

Version 1.4



All from Provider All from

☐ HANET

(unavailable)

☐ HAO

☐ JSOC

☐ KIS
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☐ KSO

☐ LASP

☐ LMSAL

☐ LSSP

☐ MSFC

☐ BBSO

☐ KANZ

☐ OACT

☐ OBSPM

☐ YNAO

☐ MLSO

☐ SMM

☐ SDO

☐ ChroTel

☐ KSO

☐ SDO

☐ IRIS

☐ TRACE

☐ RHESSI

☐ CLASP2

☐ Hi-C

☐ Hi-C21

Source

Instrument

Date Range

☐ BBSO

☐ KANZ

☐ OACT

☐ OBSPM

☐ YNAO

☐ K-Cor

☐ chp

☐ dpm

☐ mk4

☐ cp

☐ AIA

☐ HMI

☐ ChroTel

☐ KHPI

☐ EVE

☐ IRIS

☐ TRACE

☐ RHESSI

☐ SJ

☐ SP1

☐ SP2

☐ Hi-C

☐ Hi-C21

2000.07.05 →

2001.02.07 →

2002.02.26 →

2004.10.22 →

2000.11.27 →

2013.09.30 →

1996.04.20 – 2013.08.02

1994.02.20 – 2010.02.23

1998.10.01 – 2013.07.20

1980.03.02 – 1989.11.18

2010.05.12 →

2010.03.29 →

2012.04.01 →

2008.06.07 →

2010.04.30 →

2013.07.16 →

1996.01.19 – 2010.06.22

2002.02.12 →

2019.04.11 – 2019.04.11

2019.04.11 – 2019.04.11

2019.04.11 – 2019.04.11

2012.07.11 – 2012.07.11

2018.05.29 – 2018.05.29

Start: 2019 Aug 10 / 17 : 00

End: 2019 Aug 10 / 20 : 59

All Month All Day

Search

Clear

VSO @ SDAC

Browser address bar: <https://sdac.virtualsolar.org/cgi/search?time=1&instrument=1&version=current&build=1>

90%

Navigation icons: back, forward, refresh, home, download, print, full screen, menu

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|--------------------------------------|---|---|-------------------------|
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| | | <input type="checkbox"/> CELIAS | 1995.12.02 → |
| | | <input type="checkbox"/> COSTEP | 1995.12.07 → |
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| | | <input type="checkbox"/> GOLF | 1996.01.01 → |
| | | <input type="checkbox"/> LASCO | 1995.12.08 → |
| | | <input type="checkbox"/> MDI | 1996.05.01 – 2011.04.12 |
| | | <input type="checkbox"/> SUMER | 1996.01.22 – 2017.04.04 |
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| <input type="checkbox"/> SFO | <input type="checkbox"/> SFO | <input type="checkbox"/> CFDT1 | 1986.05.26 → |
| (unavailable) | | <input type="checkbox"/> CFDT2 | 1992.01.11 → |

Start: 2019 Aug 10 / 17 : 00

End: 2019 Aug 10 / 20 : 59

All Month All Day

Search Clear

Next...

- SDO data archive
 - ~16PB and growing at about ~2PB/year
 - *how best to store this much data and give everyone useful access to it?*
 - At the SDO Joint Science Operations Center (JSOC) in Stanford, CA
 - *how to move the data to the SDAC?*
 - Complex software required to run the archive in its current form
 - *Data products and archive needs to be defined to enable manageable longer term storage*

Next...

- Other mission data
 - *Parker Solar Probe WISPR data*
 - *RHESSI final data products*
 - *More Hinode Solar Optical Telescope data products*
 - *FOXSI sounding rocket data*
- New missions
 - *PUNCH data storage/provision*
 - *CODEX instrument operations and data storage/provision*

End