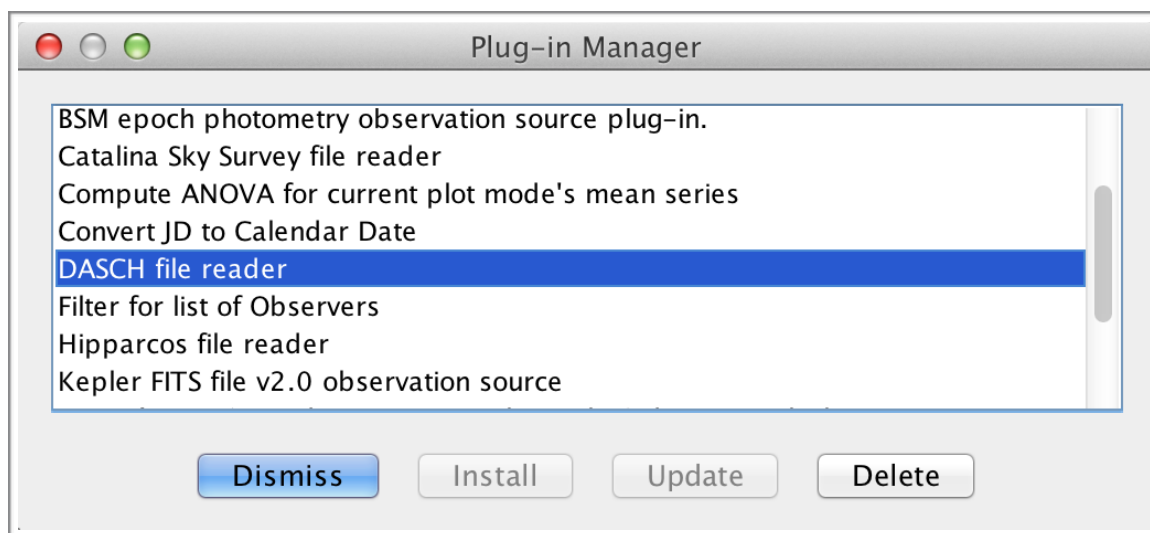



DASCH Plug-in for VStar

DASCHObservationSource is a VStar observation source plug-in tool which reads DASCH (Digital Access to a Sky Century @ Harvard) data from an input source in tab-delimited "Starbase table" (.txt) format. See bugs-and-features #439 on SourceForge for VStar. More information is available at <http://dasch.rc.fas.harvard.edu/project.php>


Install the DASCH plugin by going to the Tool menu and selecting Plug-in Manager. AAVSO login is required. Scroll to and select DASCH file reader and click on Install. After installation, restart VStar.



To obtain a DASCH data file, go to the web page <http://dasch.rc.fas.harvard.edu/lightcurve.php>



DASCH
Digital Access to a Sky Century @ Harvard
A New Look at the Temporal Universe



[Data Release Description](#) [Search Magnitudes and Lightcurves](#) [Search Images](#) [Project Page](#)

DASCH Lightcurve Access

Enter the J2000 object position or a Simbad-searchable reference in the box below and press "Search" to obtain the lightcurve query results in a separate window. The search center is currently restricted to [released regions](#), a maximum of ten entries, and a maximum search radius is 60 arcsec. Note that the positions returned by Simbad may not necessarily match the DASCH positions because of discrepancies between catalogs. DASCH positions are corrected by UCAC4 proper motions.

N >= d <= arcsec

Source:

Use frame format Use separate tabs

Name and address (Optional)

We are currently using the [AAVSO Photometry All-Sky Survey \(APASS\)](#) DR6 Catalog, the Kepler Input Catalog (KIC), and the GSC2.3.2 Catalog for photometry calibration. The APASS calibration gives the best photometric accuracy over the entire sky. The KIC calibration gives comparable accuracy for the field of the Kepler satellite. Finally, the GSC2.3.2 catalog provides magnitudes for objects outside the 9 to 15 magnitude range of APASS. An overview of DASCH calibration appears in [Laycock, S. et. al. "Digital Access to a Sky Century at Harvard. II: Initial Photometry and Astrometry"](#) and in [Sumin Tang et al., "Improved Photometry for the DASCH pipeline"](#). An overview of the DASCH pipeline appears in the project [photometry page](#).

Enter a J2000 object position or a SIMBAD-searchable reference in the box and press "Search" to deliver the query results in a separate window.

As an example, entering "SV* HV 873" tells the search facility to "search for variable stars in a window centered on Harvard variable 873, and within a radius of 5 arcsecs. Eventually a search result window containing three frames is produced.

DASCH (apass) Catalog Query Results (5")

'SV* HV 873' ra: 04:54:23.8 dec: -70:54:06 approx


| arcsec | Nobs | Nplot | mag | id | (nearbyObjects_f(m |
|--------|------|-------|-------|--|--------------------|
| 0 | 9 | 1 | 14.85 | S013202053170 | (ASAS J04542 |
| 0 | 15 | 9 | 14.03 | APASS_J045423.8-705406 | (AS |
| 2 | 1762 | 1464 | 13.59 | APASS_J045423.3-705406 | (AS |

[Display this table as a text file](#)
[Display this table as a VOTable](#)
[Download all points in table form.](#)

Select an object from the upper left panel and a plot of the DASCH magnitude measurements will appear here.

Click on a point in the plot in the upper right panel and the object image will appear here.


In the top left hand frame, three sets of results and some display / download options are shown. Choose the option "Download all points in table form", and the resultant page lists several file options (A - F) for each of the three result sets.



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DASCH Photometry Data for Catalog Query

DASCH lightcurve data is presented as a [tab-delimited ASCII "Starbase" table format](#) or as a [VOTable](#) suitable for loading into VO tools such as [topcat](#). Starbase tables may be displayed in the browser window or downloaded as a gzipped file. Tables may be displayed in short or long form. The following columns appear in the short form table.

| | |
|--------------------|---------------------------------------|
| ExposureDate | Heliocentric Julian Date |
| year | Ephemeris Date |
| magcal_magdep | DASCH magnitude. |
| magcal_local_rms | Magnitude error estimate. |
| limiting_mag_local | Limiting magnitude estimate. |
| THETA_J2000 | Image angle in degrees East of North. |
| ELLIPTICITY | 1- ((image width)/(image length)) |
| Plate | Plate identification |
| AFLAGS | Fatal image flags |

The full listing shows all of the observation measurement parameters stored in the DASCH photometry database. [See the database contents page for definitions of column headers.](#)

Note that the "quality" and "mosaicNumber" are invalid for catalog query data. Lightcurves of unmatched catalog points may not be complete near the edge of the search radius.

...

...

...
...

SV* HV_873_S013202053170_0000 with 9 points at 0 arcsec from search center

A: [short_SV* HV_873_S013202053170_0000.db](#)
B: [short_SV* HV_873_S013202053170_0000.zip.db.gz](#)
C: [short_SV* HV_873_S013202053170_0000.xml.gz](#)
D: [SV* HV_873_S013202053170_0000.db](#)
E: [SV* HV_873_S013202053170_0000.zip.db.gz](#)
F: [SV* HV_873_S013202053170_0000.xml.gz](#)

SV* HV_873_APASS_J045423.3-705406_0000 with 15 points at 0 arcsec from search center

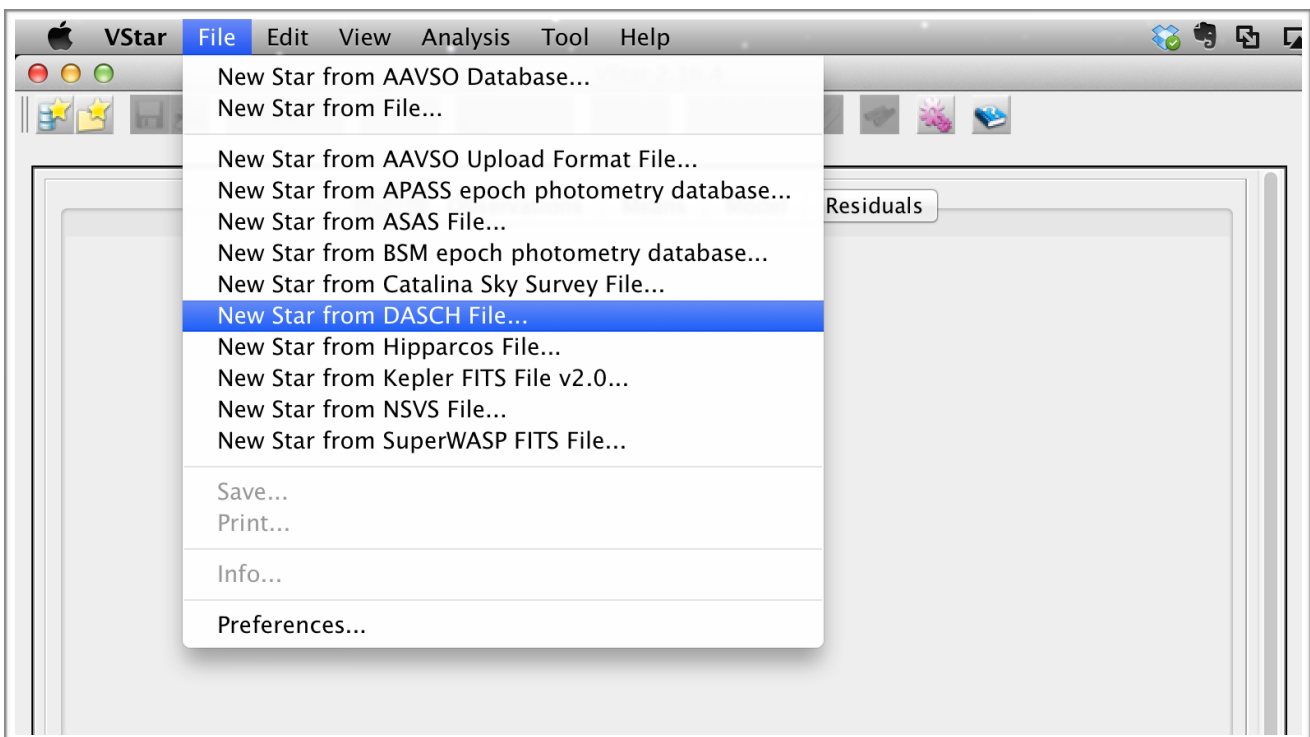
A: [short_SV* HV_873_APASS_J045423.3-705406_0000.db](#)
B: [short_SV* HV_873_APASS_J045423.3-705406_0000.zip.db.gz](#)
C: [short_SV* HV_873_APASS_J045423.3-705406_0000.xml.gz](#)
D: [SV* HV_873_APASS_J045423.3-705406_0000.db](#)
E: [SV* HV_873_APASS_J045423.3-705406_0000.zip.db.gz](#)
F: [SV* HV_873_APASS_J045423.3-705406_0000.xml.gz](#)

SV* HV_873_APASS_J045423.3-705406_0002 with 1762 points at 2 arcsec from search center

A: [short_SV* HV_873_APASS_J045423.3-705406_0002.db](#)
B: [short_SV* HV_873_APASS_J045423.3-705406_0002.zip.db.gz](#)
C: [short_SV* HV_873_APASS_J045423.3-705406_0002.xml.gz](#)
D: [SV* HV_873_APASS_J045423.3-705406_0002.db](#)
E: [SV* HV_873_APASS_J045423.3-705406_0002.zip.db.gz](#)
F: [SV* HV_873_APASS_J045423.3-705406_0002.xml.gz](#)

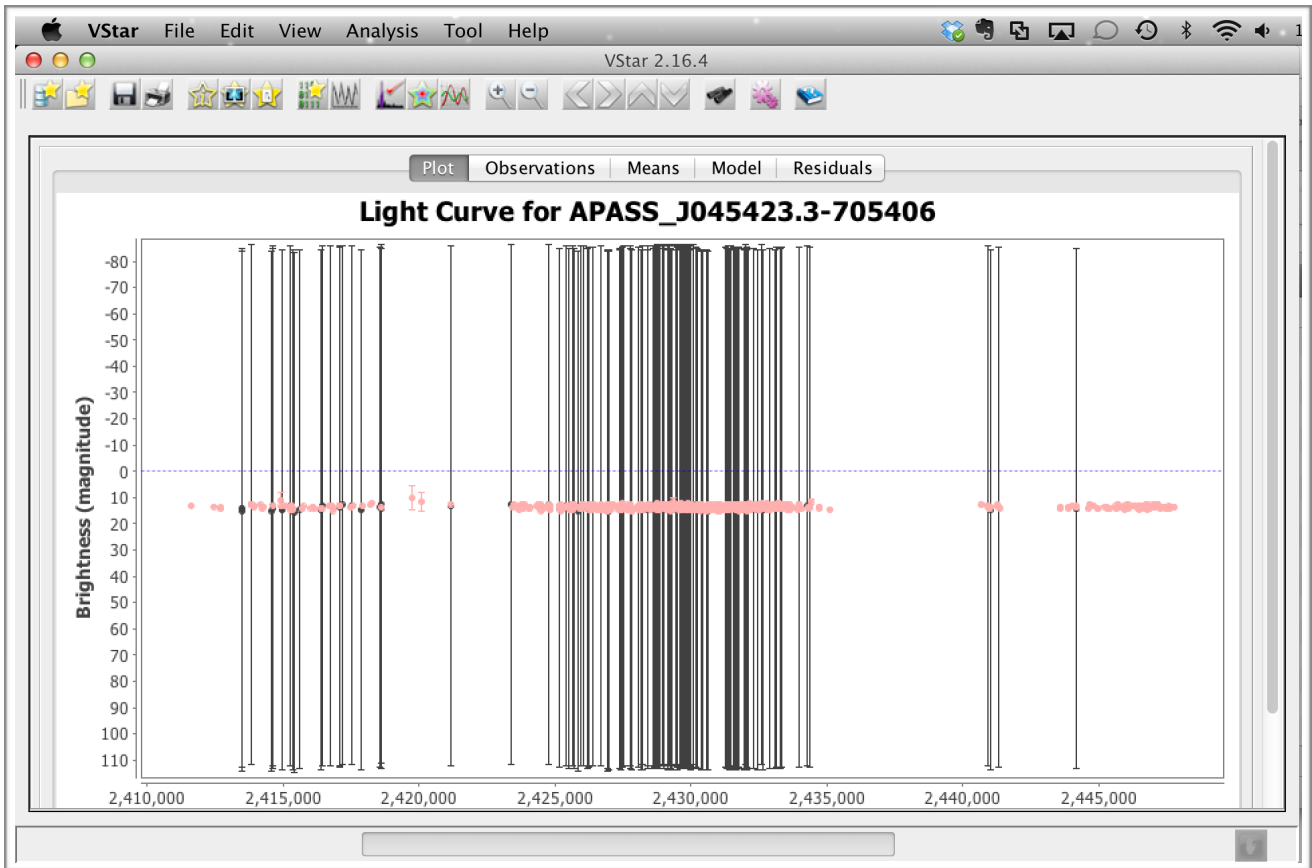
This plug-in is designed to read files of type A, such as "short_SV* HV_873_APASS_J045423.3-705406_0002.db". The plug-in can read this either as a local file on your PC or Mac (once you download it), or as the appropriate URL, in this case - http://dasch.rc.fas.harvard.edu/tmp/rv1tC9/short_SV* HV_873_APASS_J045423.3-705406_0002.db. Note that these URLs are available only on a temporary basis. Other instances of the same query may produce a different URL.

In VStar, to use this plugin, select "New Star from DASCH file ..." from the File menu.



The plugin will display a dialog box, asking you to select a file or input a full URL. The DASCH data will then become available in VStar for analysis.

In the DASCH data, some of the observations show a “magErr” of 99, indicating that the observed magnitude lies beyond the range of the limiting magnitudes for the original plates. The plug-in flags these observations as “excluded. For the above example, the initial plot looks like the following, somewhat distorted by the resultant large error bars -



If you then select Plot Control from the View menu and un-check the “Excluded” box under Visibility of Data, the new plot will look much more “reasonable” -

