

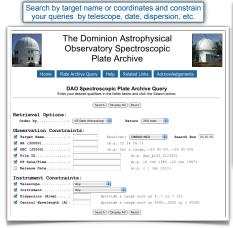
# The Dominion Astrophysical Observatory **Spectroscopic Plate and Science Archives**

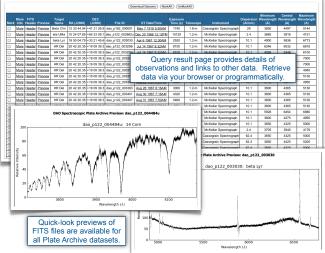
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### Digitizing DAO Heritage Photographic Spectra

The DAO's photographic Archive - one of the largest in North America - contains almost exclusively Cassegrain or coudé spectra. As the principal focus of the DAO in the past was binary systems, the 16,800 plates from the 1.2-m telescope (dating back to 1962) and the 93,000 or so from the 1.8-m telescope (commencing in 1918) include substantially long runs of a large number of RV variables and other objects that manifest variability. The very great majority of the plates have never been digitized so as to yield an electronic transform of their spectroscopic information, and many will only have been measured for velocity, or studied in a semi-qualitative way. We have commenced a programme to digitize them with the DAO's in-house PDS. The PDS has been upgraded so as to mesh well with the software routines that now pipeline the data. Scanning is being prioritized according to (a) demand, (b) data quality (e.g. all of the 1.2-m long-camera plates, regardless) and (c) the likelihood that an observation has the potential to return new science. The output spectra are fully calibrated in wavelength and in direct intensity, and can be downloaded in FITS format through a web site hosted by the CADC.

## http://www.cadc.hia.nrc.gc.ca/dao/pa.html





FITS Header for DAO File dao\_c122\_2010\_006436

For both Archives view details of the

database content for each dataset

as well as the FITS headers

Detailed documentation describing scanning procedure

and production of FITS files is

provided on the web site.

### The DAO Science Archive

In a parallel effort, we have also developed an on-line archive for new data that continue to be acquired with both of the DAO telescopes. FITS files containing spectra or images are transferred automatically to the CADC storage system upon acquisition, and their associated metadata are ingested into CADC database tables. Pls can then search the DAO data collection using a typical CADC query page, and retrieve their raw proprietary data within minutes of the photons being collected by the telescope. Public CCD data from 2010 and earlier are also being added to the archive after their FITS header contents have been modified to meet the minimum requirements needed to enable archival searches and subsequent scientific exploitation.



http://www.cadc.hia.nrc.gc.ca/dao

Search the DAO Science Archive by target name or coordinates and constrain your queries by observation type and characteristics.

Proprietary access to data available to PI's and authorized colleagues within minutes of acquistion via the Proprietary Data Access page

	Header		RA (J2000)	DEC (J2000)	File ID	Program ID	UT Date/Time	Release Date	Exposure Time (s)	Telescope	Minimum Wavelength (A)	Central Wavelength (A)	Maximum Wavelength (A)	Environment Data
					dao_c122_2011_004175			May 10 2012 8:23AM	900	1.2-m	4273	4420	4567	Data
More	Header	89Her	17 55 20.43	+26 03 15.4	dao_c122_2011_002670	DAO122_2011B7	Apr 19 2011 8:40AM	Apr 19 2012 9:00AM	1200	1.2·m	4273	4420	4567	Data
More	Header	89Her	17 55 22.27	+26 03 36.1	dao_c122_2010_011675	DAO122_2010C4	Jul 8 2010 5:56AM	Jul 8 2011 6:11AM	900	1.2-m	4273	4420	4567	Data
More	Header	89Her	17 55 26.11	+26 03 02.0	dao_c122_2010_010697	DAO122_2010B7	Jun 17 2010 5:59AM	Jun 17 2011 6:14AM	900	1.2-m	4273	4420	4567	Data
More	Header	89Her	17 55 22.21	+26 03 06.0	dao_c122_2010_010007	DAO122_2010B7	May 21 2010 5:51AM	May 21 2011 6:06AM	900	1.2·m	4273	4420	4567	Data
More	Header	89Her	17 55 23.41	+26 03 06.0	dao_c122_2010_010005	DAO122_2010B7	May 21 2010 5:34AM	May 21 2011 5:48AM	900	1.2-m	4273	4420	4567	Data
More	Header	89Her	17 55 24.25	+26 03 11.0	dao_c122_2010_006926	DAO122_2010B7	May 6 2010 6:17AM	May 6 2011 6:32AM	900	1.2-m	4273	4420	4567	Data
More	Header	89Her	17 55 23.15	+26 03 13.0	dao_c122_2010_006436	DAO122_2010B7	Apr 23 2010 7:41AM	Apr 23 2011 7:56AM	900	1.2-m	4273	4420	4567	Data
More	<u>Header</u>	89Her	17 55 24.05	+26 03 14.0	dao_c122_2010_006435	DAO122_2010B7	Apr 23 2010 7:26AM	Apr 23 2011 7:41AM	900	1.2-m	4273	4420	4567	Data
More	Header	89Her	17 55 22.85	+26 03 10.0	dao_c122_2010_006116	DAO122_2010B7	Apr 15 2010 7:58AM	Apr 15 2011 8:13AM	900	1.2-m	4347	4420	4494	Data
More	Header	89Her	17 55 23.15	+26 03 14.0	dao_c122_2010_006115	DAO122_2010B7	Apr 15 2010 7:42AM	Apr 15 2011 7:58AM	900	1.2·m	4347	4420	4494	Data
	(Dominial Datastin) (Markel) (Markel)  A total of 11 records were retrieved													
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# Summary and Future Plans

These complimentary archiving efforts will provide a complete collection of safely archived DAO data for both telescopes, extending from 1918 to the present time for the 1.8-m telescope, and from 1962 to the present for the 1.2-m facility. If you have questions about the availability of DAO plates of a target of particular interest to you we encourage you to contact Elizabeth Griffin (elizabeth.griffin@nrc-cnrc.gc.ca). Questions about more recent DAO CCD and Reticon observations should be directed to David Bohlender (david.bohlender@nrc-cnrc.gc.ca).



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