

Korean Astronomical Data Center Prototype Release

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Abstract. The prototype version of the Korean Astronomical Data Center (KADC)'s database server is presented. The first dataset is from the Bohyunsan Optical Astronomy Observatory (BOAO)'s 1.8m optical telescope. The total amount of the data is about 400 GB and these data are obtained during 1997 Sep – 2002 Dec by using 1K CCD, 2K CCD, and medium-dispersion spectrograph. The prototype version of KADC database has two modes for the users : (i) user can look through the list of titles of observing runs, observation logs, and parameters of each FITS files, and (ii) user can search data by typing object name, coordinates and search box size, etc. The FITS format files for target objects together with all accompanying files for processing can be obtained. In KADC database, the search process is being operated by SQL using metadata-table which contains information of FITS header parameters. This archive is the first astronomical database made in Korea, which will be expanded for the Taeduk 14m radio telescope data and future projects such as Korean VLBI Network (KVN, to be completed in 2007) and 8m-class large optical telescope which is currently being designed.

1. Introduction

The Korean Astronomical Data Center (KADC)¹ was established in 2002 as a new department in Korea Astronomy Observatory (KAO)², the national observatory of the Republic of Korea, and has performed the principal axis in giving birth to the Korean Virtual Observatory (KVO)³ in February 2003 (Kim et al. 2003). As a first mission of the KADC/KVO, we are building databases of astronomical data produced by telescopes in Korea. In this paper, we introduce the prototype version of KADC using the Bohyunsan Optical Astronomy Observatory (BOAO)⁴ 1.8m optical telescope data.

¹<http://kadc.kao.re.kr/>

²<http://www.kao.re.kr/>

³<http://kvo.kao.re.kr/>

⁴<http://www.boao.re.kr/>

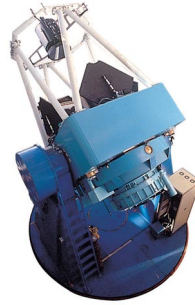


Figure 1. The Bohyunsan Optical Astronomy Observatory (BOAO) 1.8m optical reflecting telescope.

2. KADC Archive

BOAO is located at the summit of Mt. Bohyun, south-eastern part of Korea, at the altitude of 1,162m. It is founded on April 1996 and has 1.8m reflecting telescope (Figure 1) as the main facility. Using the ~ 400 GB data obtained by this telescope during 1997 September to 2002 December, we have constructed an archive. The database is consisted of photometric (using 1K CCD and 2K CCD) and spectroscopic (using medium-dispersion spectrograph) data and the number of FITS files exceeds 80,000. The first web service is being made by 1997 to 2001 data.

Figure 2 shows the main page of this BOAO data archive. Primary search criterion of object name or coordinates (with search box size) can be used to search for the data, and secondary optional search criteria of observation date, observer(s), data type, and/or instrument are also useful for obtaining concrete data. The search process is being operated by SQL using metadata-table which contains information of FITS header parameters. There are also JPG images for preview and re-sorting options for each table column are provided.

Figure 3 shows a sample of search result page, from where the data can be uploaded to the FTP site for further downloading in FITS format (Figure 4).

3. Future Works

The current prototype version of KADC will be expanded to contain the data produced by other Korean telescopes, such as those obtained from Taeduk 14m radio telescope, YSTAR (Yonsei Survey Telescopes for Astronomical Research)-NEOPAT (Near Earth Object PATrol) project, and Galactic plane CO survey ($l = 60 - 180$) project using the Seoul National University 6m radio telescope. Data from telescopes that will be built in the near future (e.g., Korean VLBI Network; KVN) and data from satellites launched by international cooperation (e.g., Far-ultraviolet IMaging Spectrograph (FIMS), Galaxy Evolution Explorer (GALEX)) will also be used.

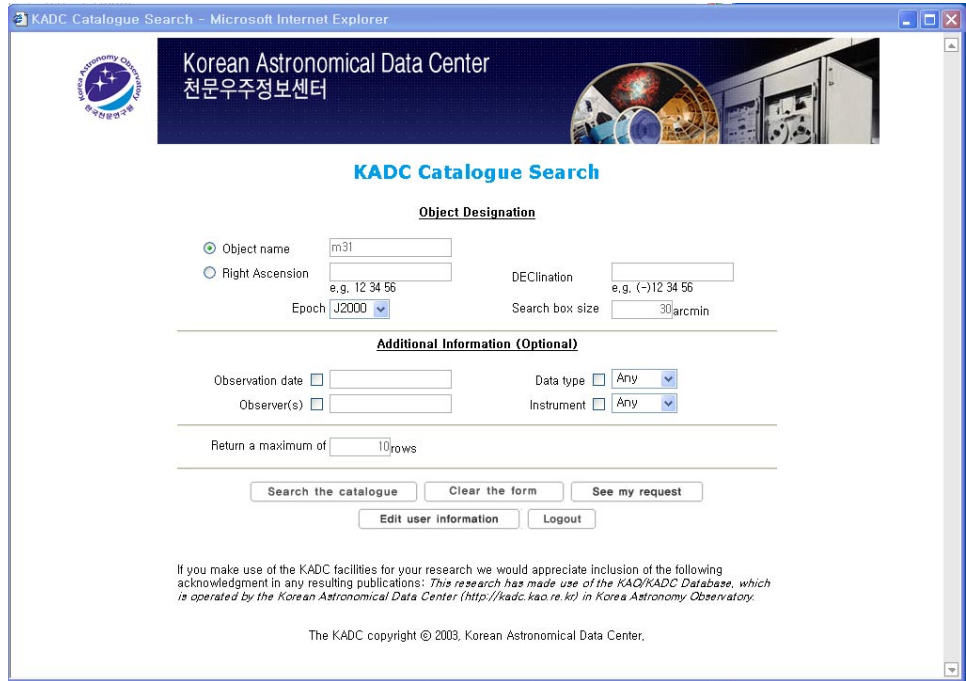


Figure 2. The main web page of the KADC BOAO database server. User can search data by typing object name, coordinates and search box size, etc.

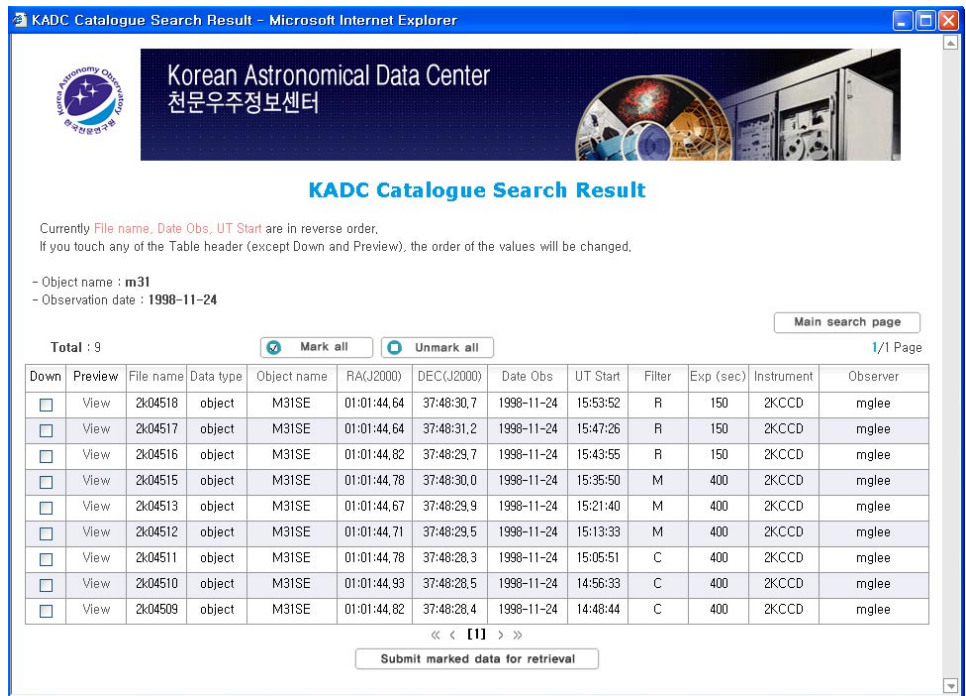


Figure 3. The KADC web page showing the search result.

KADC ftp Service

Main search page Logout

- Each user can use 200MB space in the ftp directory.
- The **Ftp directory** table shows list of files in your ftp directory.
- To move files into your ftp directory, select files from the **Basket** table and push the **Save the selected files at ftp area** button. Then, you can download the files from the FTP directory.
- For downloading, you can click each file name at this webpage or connect to `kadc.kao.re.kr` via ftp (`cd /pub/your_ID/`) for downloading multiple files.
- Please, note the 200MB limit of the FTP directory. There are small tables to show you the status of FTP directory and amount of selected files.
- You can remove the files from any of the two tables by pushing the **Delete the selected files** button.
- ftp 서비스창에서 files파일 다운로드 시 ".txt"확장자가 붙을 경우의 해결 방법

Ftp directory

Select	Size(MB)	File name	Data type	Object name	RA(J2000)	DEC(J2000)	Date Obs	UT Start	Filter	Exp (sec)	Instrument	Observer
<input type="checkbox"/>	9.0	2k20139	object	HH13	03:28:41.99	31:05:20.3	1999-11-30	16:22:19	NIIL6583	600	2KCCD	H.I. Sung
<input type="checkbox"/>	9.0	2k20140	object	HH13	03:28:42.06	31:05:22.2	1999-11-30	16:35:28	NIIL6583	600	2KCCD	H.I. Sung
<input type="checkbox"/>	9.0	2k44205	object	M13-1	16:41:58.68	36:32:11.4	2001-05-10	17:46:20	B	40	2KCCD	Cho, Dong-Hwan
<input type="checkbox"/>	9.0	2k44206	object	M13-1	16:41:58.62	36:32:11.5	2001-05-10	17:49:21	B	160	2KCCD	Cho, Dong-Hwan
<input type="checkbox"/>	2.4	sp02646	object	M15_1800s	21:29:57.87	12:10:12.8	2000-05-21	18:04:23	NO	1800	SP	mglee, sckim, bcl

Mark all Unmark all Delete the selected files

FTP directory Used : 38.4 MB Rest : 161.6 MB

Basket Selected : 0.0 MB Total : 25.1 MB

Sum : 38.4 MB

Basket ※ Files with red background are already in FTP directory. Mark all Unmark all

Select	Size(MB)	File name	Data type	Object name	RA(J2000)	DEC(J2000)	Date Obs	UT Start	Filter	Exp (sec)	Instrument	Observer
<input type="checkbox"/>	9.0	2k20145	object	HH13	03:28:41.66	31:05:10.4	1999-11-30	17:15:29	SIIL6717	600	2KCCD	H.I. Sung
<input type="checkbox"/>	9.0	2k20146	object	HH13	03:28:41.70	31:05:11.0	1999-11-30	17:28:06	SIIL6717	600	2KCCD	H.I. Sung
<input type="checkbox"/>	2.4	sp02612	object	Mrk796	13:46:47.87	14:24:22.9	2000-05-21	13:47:59	NO	1800	SP	mglee, sckim, bcl
<input type="checkbox"/>	2.4	sp02615	object	Mrk796	13:46:49.87	14:24:19.9	2000-05-21	14:46:12	NO	3600	SP	mglee, sckim, bcl
<input type="checkbox"/>	2.4	sp02783	object	M 57			2000-06-17	14:20:08	NO	100	SP	ucsung, bclee

Mark all Unmark all Save the selected files at ftp area Delete the selected files

FTP directory Used : 38.4 MB Rest : 161.6 MB

Basket Selected : 0.0 MB Total : 25.1 MB

Sum : 38.4 MB

Main search page Logout

Figure 4. The web page showing the ftp directory and the files obtained from the previous searches.

References

- Kim, S. C., Sung, H.-i., Kim, B. G., Chun, M.-Y., Park, J.-H., Cho, S.-H., Byun, Y.-I., & Koo, B.-C. 2003, in *Highlights of Astronomy*, Vol. 13, 25th meeting of the IAU, Joint Discussion 8, in press