

# HSC-SSP データベース講習会

小池美知太郎

2016 4/11 @三鷹

天文データセンター共催

# CAS

## (Catalog Archive Service)

about the data release schema browser list jobs summary table search direct SQL search misc hscMap (s15a) problem? koikem@stars logout

### jobs

quota: 196 MB / 50 GB

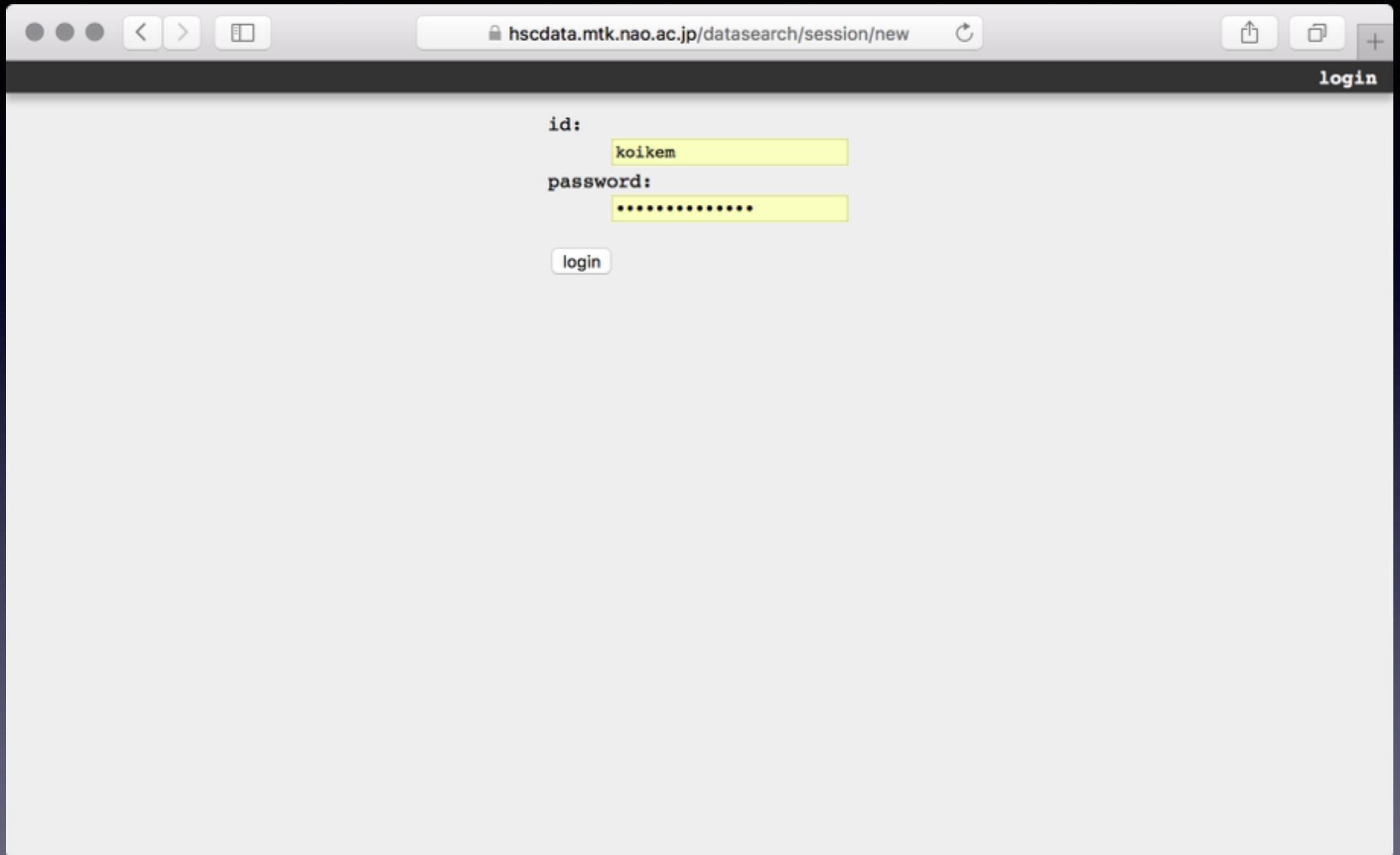
this page will be reloaded in 30 seconds.

1 2 3 4 5 ... Next › Last »

id	release	name	status	created	started	duration	sql	error	download
29493	dr1	catalog-job 2016-04-10	done	2016-04-10 13:57:37	2016-04-10 13:57:37	00:00:03	SELECT phot.id, phot.ra2000, phot.decl2000, phot.gflux_cmodel,		delete CSV.GZ 2.74 KB
29492	dr1	catalog-job 2016-04-10	done	2016-04-10 13:57:20	2016-04-10 13:57:21	00:00:00	----- This is an example for selecting QSO candidates at z ~ 4.5		delete CSV.GZ 1.18 KB
29491	dr1	catalog-job 2016-04-10	done	2016-04-10 13:56:50	2016-04-10 13:56:50	00:00:00	-- -- put your SQL here		delete CSV.GZ 49 Bytes
29490	dr1	catalog-job 2016-04-10	done	2016-04-10 13:54:44	2016-04-10 13:54:44	00:00:00	-- -- put your SQL here		delete CSV.GZ 49 Bytes
29480	dr1	catalog-job 2016-04-08	done	2016-04-08 07:13:41	2016-04-08 07:13:41	00:00:00	-- Simple area search based on the range of RA and DEC getting all object		delete CSV.GZ 688 Bytes
29479	dr1	catalog-job 2016-04-08	done	2016-04-08 07:13:41	2016-04-08 07:13:41	00:00:00	-- Simple area search based on the range of RA and DEC getting all object		delete CSV.GZ 688
29478	dr1	catalog-job 2016-04-08	done	2016-04-08 07:13:41	2016-04-08 07:13:41	00:00:00	-- Simple area search based on the range of RA and DEC getting all object		delete CSV.GZ 688
29477	dr1	catalog-job 2016-04-08	done	2016-04-08 07:13:41	2016-04-08 07:13:41	00:00:00	-- Simple area search based on the range of RA and DEC getting all object		delete CSV.GZ 688

# データベースへのアクセス方法

- SSPのデータベースのホームページへログイン
  - <https://hscdata.mtk.nao.ac.jp/datasearch/>
- SQLを書く
- SQLをsubmit
- 検索が終わるのを待つ→結果をダウンロード



<https://hscdata.mtk.nao.ac.jp/datasearch/>

id:

password:



STARSアカウント  
と、そのパスワード

name:

release:

SQL: Press ctrl-space or ctrl-I to activate autocompletion. (experimental)

```
1 --  
2 -- put your SQL here  
3 --  
4 |
```

example:

- include SQL in CSV
- syntax check before enqueueing  
If you encounter an error "ERROR: canceling statement due to statement timeout" on enqueueing, please uncheck this.
- csv  csv.gz  sqlite3  fits

(timeout: 10 seconds)  (timeout: 12 hours / output limit: 20 GB)

name:

release:

SQL: Press ctrl-space or ctrl-I to activate autocompletion. (experimental)

```
1 --  
2 -- put your SQL here  
3 --  
4 select sqrt(4)
```

example:

- include SQL in CSV
- syntax check before enqueueing  
If you encounter an error "ERROR: canceling statement due to statement timeout" on enqueueing, please uncheck this.
- csv  csv.gz  sqlite3  fits

(timeout: 10 seconds)  (timeout: 12 hours / output limit: 20 GB)

編集

name:

release:

SQL: Press ctrl-space or ctrl-I to activate autocompletion. (experimental)

```
1 --  
2 -- put your SQL here  
3 --  
4 select sqrt(4)
```

example:

- include SQL in CSV
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If you encounter an error "ERROR: canceling statement due to statement timeout" on enqueueing, please uncheck this.
- csv  csv.gz  sqlite3  fits

(timeout: 10 seconds)  (timeout: 12 hours / output limit: 20 GB)

クリック

hscdata.mtk.nao.ac.jp/datasearch/catalog\_jobs

about the data release schema browser list\_jobs summary table search direct SQL search misc hscMap (s15a) problem? koikem@stars logout

name: catalog-job 2016-04-10

release: dr1

SQL: Press ctrl-space or ctrl-I to activate autocompletion. (experimental)

```
1 --
2 -- put your SQL here
3 --
4 select sqrt(4)
```

example: - function list table list

- include SQL in CSV
- syntax check before enqueueing  
If you encounter an error "ERROR: canceling statement due to statement timeout" on enqueueing, please uncheck this.
- csv  csv.gz  sqlite3  fits

preview (timeout: 10 seconds) enqueue (timeout: 12 hours / output limit: 20 GB)

1 records found.  
sqrt  
2



結果

プレビューモードでは  
10秒

最初の1000行

name:

release:

SQL: Press ctrl-space or ctrl-I to activate autocompletion. (experimental)

```
1 --  
2 -- put your SQL here  
3 --  
4 select sqrt(4)
```

example:

- include SQL in CSV
- syntax check before enqueueing
- If you encounter an error "ERROR: canceling statement due to statement timeout" on enqueueing, please uncheck this.
- csv  csv.gz  sqlite3  fits

(timeout: 10 seconds)  (timeout: 12 hours /  limit: 20GB)

出力フォーマットを選択

クリック

12時間  
20GB

## jobs

quota: 196 MB / 50 GB

this page will be reloaded in 57 seconds.

1 2 3 4 5 ... Next » Last »

id	release	name	status	created	started	duration	sql	error	download
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今、submitした検索ジョブ

## jobs

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1 2 3 4 5 ... Next › Last »

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statusがdoneになるのを待つ  
(終わるとお知らせメールが届く)

# jobs

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this page will be reloaded in 30 seconds.

1 2 3 4 5 ... Next Last

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doneになるとdownloadリンクが現れる

# データベースへのアクセス方法

- SQL generatorを使う
  - [https://hscdata.mtk.nao.ac.jp/datasearch/photoobj\\_searches/new](https://hscdata.mtk.nao.ac.jp/datasearch/photoobj_searches/new)

# コマンドラインインターフェース

## 2. Shell

```
% python hscSspQuery.py -r dr_early -u koikem <(echo "select now()")
```

# コマンドラインインターフェース

## 2. Shell

```
% python hscSspQuery.py -r dr_early -u koikem <(echo "select now()")
```

```
password?
```

```
# name,# catalog-job 2016-03-07
```

```
# SQL,"# select now()
```

```
# "
```

```
#
```

```
# now
```

```
2016-03-07 10:29:22.800271+09:00
```

```
% █
```

```
[michitaro@wlan-65-196:~]
```

# hscMap

The screenshot displays the hscMap web interface. The main view is a star field with numerous green circles overlaid, representing a selected region. The interface includes several panels:

- catalogs**: A table listing available catalogs.
- SQL**: A window for entering and executing SQL queries.
- quick**: A scatter plot window showing the relationship between two variables.

**catalogs**

☆	+	%	name	rows	color	sparse	DL	x
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	quick	68	<input checked="" type="checkbox"/>		DL	x
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29495.csv	18	<input checked="" type="checkbox"/>		DL	x
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	quick	2450	<input checked="" type="checkbox"/>		DL	x
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	default		<input checked="" type="checkbox"/>			

.csv or .csv.gz files are supported. [sample](#)  
 No files selected.

**SQL**

schema: s15b\_udeep

area:  
ra1 35.14831 dec1 -4.6346!  
ra2 35.2268! dec2 -4.5914!  
drag on the map with pressing shift key.

SQL:  
preset: Choose...   edit

```
SELECT  
ra2000, dec12000, gnog_cmodel, imog_cmodel  
FROM  
$schema.photoobj_mosaic_deepcoadd_merged AS main  
WHERE  
$objects_in_selected_area
```

**quick**

subplt x: gnog\_cmodel y: imog\_cmodel

The scatter plot shows a positive correlation between gnog\_cmodel (x-axis, 20.0 to 35.0) and imog\_cmodel (y-axis, 20.0 to 35.0). The data points are blue crosses forming a dense diagonal line.

At the bottom, there is a status bar with window management icons and a coordinate display: `mini window background tract grid +00° 00' 12.0" | 02:20:53.15 -04:37:40.09 | s15b_udeep/8524 | Lock`

# 使い方

[https://hscdata.mtk.nao.ac.jp/hsc\\_ssp/dr1/hscMap/help.html](https://hscdata.mtk.nao.ac.jp/hsc_ssp/dr1/hscMap/help.html)

# 検索結果を画像上で確認

- [https://hscdata.mtk.nao.ac.jp/hsc\\_ssp/dr1/hscMap/](https://hscdata.mtk.nao.ac.jp/hsc_ssp/dr1/hscMap/)

- カタログのオーバープロット
- CASの結果(csv, csv.gzをプロット)
  - テーブル表示
  - xyプロット
- viewerから直にSQLを投げる
- CSVファイルを手で作る

- 色調整
- ブックマーク
- 座標指定

- 画像取得
  - stack画像, stack前ccd別の画像
  - 画像切り出し

- 古いブラウザでは動かない or 設定が必要
- 共同利用計算機のFirefoxでも設定が必要
- <http://d.hatena.ne.jp/nakamura001/20111119/1321712487>

# 画像ファイル切り出し

- [https://hscdata.mtk.nao.ac.jp:4443/das\\_quarry/](https://hscdata.mtk.nao.ac.jp:4443/das_quarry/)

SSP CAS -hscMap- x HSC SSP Data Release x DAS Search Template (DR 1) x DAS Quarry x SSP CAS -hscMap- x datasearch x +

https://hscdata.mtk.nao.ac.jp:4443/das\_quarry/ Search

## DAS Quarry

This is a quarry (not *query*) where you can take a FITS image cut out from large coadd images stored in DAS.

There are two ways to specify a rectangular region you want:

- [Specify two diagonal corners](#)
- [Specify center & size](#)

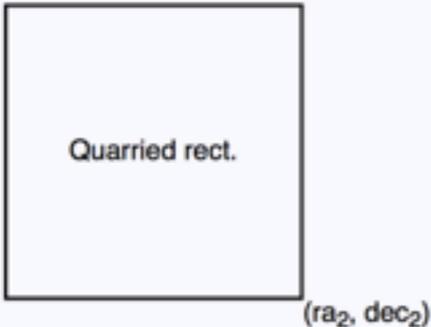
Or you can upload a list of coordinates to get them all:

- [Upload a list of coordinates](#)

### Two diagonal corners

Quarry a rectangle that is defined by two diagonal corners:  $(ra_1, dec_1)$  and  $(ra_2, dec_2)$ .

$(ra_1, dec_1)$



$(ra_2, dec_2)$

ra<sub>1</sub>:  dec<sub>1</sub>:   
ra<sub>2</sub>:  dec<sub>2</sub>:   
file type: coadd  image  I mask  I variance   
filter: 1   
tract: (can be blank) rerun: (any)

- 画像の矩形切り出し

- Webフォームを埋める

- 座標のリストをテキストで渡す

# 画像ファイル検索

- [https://hscdata.mtk.nao.ac.jp:4443/das\\_console/dr1/](https://hscdata.mtk.nao.ac.jp:4443/das_console/dr1/)

# DAS Search Template (DR 1)

## Region, Date, &c.

< field map

Region... > Time: from  through  erase  
Filters:  HSC-G |  HSC-R |  HSC-I |  HSC-Z |  HSC-Y |  NB0921 erase

Date →  
Filter →  
Tract →

1. 検索条件を入力

New block

## File types

2. 取得するファイルの種類を選択

ccd単体の画像、 stack済みの画像など

- all
- frames
  - images
    - corrected
    - calibrated with mosaic
  - catalogs
  - coadds

## Reruns

- Release S15B
  - UDEEP (s15b\_udeep)
  - DEEP (s15b\_deep)
  - WIDE (s15b\_wide)

Search

3. submit

## Reruns

- Release S15B
  - UDEEP (s15b\_udeep)
  - DEEP (s15b\_deep)
  - WIDE (s15b\_wide)

Search

Following files found: [Download \(tar\)](#) (Estimated size (uncompressed): 8.6 GB)

[Type:  tar |  tar.gz |  tar.xz]

filter by checkmarks

## Frames

Show  entries

Search:

<input checked="" type="checkbox"/>	visit	ra	dec	date	filter	exptime	seeing	ellipticity	transparency
<input checked="" type="checkbox"/>	340	10h00m50.77s	02d12m18.4s	2014-03-25 10:27:30.335000	HSC-Y	30	1.41	0.0301755	0
<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Showing 1 to 1 of 1 entries

Previous  Next

Download all: [Download \(tar\)](#) (Estimated size (uncompressed): 8.6 GB)

[Type:  tar |  tar.gz |  tar.xz]

filter by checkmarks

4. 結果一覧を確認

5. 結果をtarなどでダウンロード

# DAS

## (Data Archive Service)

Browser address bar: [https://hscdata.mtk.nao.ac.jp:4443/das\\_console/dr1/](https://hscdata.mtk.nao.ac.jp:4443/das_console/dr1/)

### Reruns

- Release S15B
  - UDEEP (s15b\_udeep)
  - DEEP (s15b\_deep)
  - WIDE (s15b\_wide)

Search

Following files found: [Download \(tar\)](#) (Estimated size (uncompressed): 8.6 GB)  
[Type:  tar |  tar.gz |  tar.xz]

[filter by checkmarks](#)

### Frames

Show  entries Search:

<input checked="" type="checkbox"/>	visit	ra	dec	date	filter	exptime	seeing	ellipticity	transparency
<input checked="" type="checkbox"/>	340	10h00m50.77s	02d12m18.4s	2014-03-25 10:27:30.335000	HSC-Y	30	1.41	0.0301755	0
<input checked="" type="checkbox"/>									

Showing 1 to 1 of 1 entries Previous  Next

Download all: [Download \(tar\)](#) (Estimated size (uncompressed): 8.6 GB)  
[Type:  tar |  tar.gz |  tar.xz]

[filter by checkmarks](#)

[filter by checkmarks](#)

[Type:  tar |  tar.gz |  tar.xz]

Download all: [Download \(tar\)](#) (Estimated size (uncompressed): 8.6 GB)

Showing 1 to 1 of 1 entries Previous  Next

# まとめ

- SSPのデータには次の3つからアクセスできる
  - Catalog Archive Service (CAS)
  - hscMap
  - Data Archive Service (DAS)
- collaborator向けのSSPのホームページにリンクあり
  - [https://hscdata.mtk.nao.ac.jp/hsc\\_ssp/](https://hscdata.mtk.nao.ac.jp/hsc_ssp/)