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# **hscquery Documentation**

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hscquery is a Python 2/3 module for querying the *Hyper Suprime-Cam Subaru Strategic Program* database. [HSC-SSP](#)

Based on the python script developed by michitaro, NAOJ / HSC Collaboration. [Source](#)



# CHAPTER 1

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## Dependencies

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`hscquery` depends on `astropy` and `future` packages.





## CHAPTER 2

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### Installation

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`hscquery` can be easily installed using `pip`:

```
pip install hscquery
```



## CHAPTER 3

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### Example

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A simple example of using `hscquery`:

```
from hscquery import HSC
from astropy import units as u
from astropy.coordinates import SkyCoord

coords = SkyCoord(34.0, -5.0, unit='deg')
radius = 5.0 * u.arcsec

h = HSC(survey='wide')
data = h.query_region(coords, radius)
print data
```



## CHAPTER 4

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### hscquery module

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Module for accessing the Hyper Suprime-Cam Subaru Strategic Program database.

A valid account for the HSC Archive is needed to use this module. See [HSC Online Registration](#).

Based on the python script developed by michitaro, NAOJ / HSC Collaboration. [[Source](#)]

```
class HSC(survey='wide', release_version='pdr1', columns='object_id, ra, dec', user=None, password_env='HSCPASSW')
```

Bases: `future.types.newobject.newobject`

Main class for accessing the HSC-SSP database.

#### Parameters

- **survey** (*str*, *optional*) – Available surveys: ‘wide’, ‘deep’, ‘udeep’. By default is ‘wide’.
- **release\_version** (*str*, *optional*) – For the moment, only ‘pdr1’ is available (Public Data Release 1)
- **columns** (*str*, *optional*) – List of selected columns for query results. See the [HSP-SSP schema](#) for details. By default is ‘object\_id, ra, dec’.
- **user** (*str* or *None*, *optional*) – Account name in the HSC-SSP database. If *None*, when an HSC object is initiated, the user can introduced the account name.
- **password\_env** (*str*, *optional*) – The account’s password can be stored in a system enviroment variable. By default the password is searched at HSCPASSW. If this environment variable doesn’t exist, the user is asked to introduce his password. Use the *password\_env* option with caution, since your password can be easily exposed!

```
query_region(coords, radius, catalog='forced')
```

Returns an astropy Table object with all sources from catalog *catalog* within radius *radius* around sky position *coords*.

#### Parameters

- **coords** (`SkyCoord`) – Search around this position.

- **radius** (*Quantity*) – Search radius (angular units)
- **catalog** (*str*, *optional*) – Available options: ‘forced’, ‘meas’, ‘specz’, or ‘random’. See the [HSP-SSP schema](#) for details. By default is ‘forced’.

**send\_query** (*sql*, *output\_format*=‘csv’, *output\_file*=None, *delete\_job*=True)

Send an SQL query *sql*.

If *output\_file* is None, a preview of the results is shown. Otherwise, results are saved in a file with name *output\_file* and in the format defined by *output\_format*.

### Parameters

- **sql** (*str*) – SQL query.
- **output\_format** (*str*, *optional*) – Available formats: ‘csv’, ‘csv.gz’, ‘sqlite3’, or ‘fits’.
- **output\_file** (*str* or None) – Name of the file for storing the query results. If None, a preview of the results is shown.
- **delete\_job** (*bool*) – Delete job and results from the user space. By default is True.

**exception QueryError**

Bases: `exceptions.Exception`

Query error class.

## CHAPTER 5

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### Indices and tables

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