



# Parkes Telescope Data Access

March 3<sup>rd</sup> 2021

[Lawrence.Toomey@csiro.au](mailto:Lawrence.Toomey@csiro.au)

## Table of Contents

<b>Parkes Telescope Data Access.....</b>	<b>1</b>
<i>Pulsar data: Accessing data from CSIRO's Data Access Portal (DAP) .....</i>	<i>1</i>
STEP 1: Conduct a search query .....	1
STEP 2: Request access to a collection .....	3
STEP 3: Download your data.....	5
ATNF Computer Account Holders .....	6
<i>Need help with data access? .....</i>	<i>7</i>

This document describes the ways in which pulsar data taken by the Parkes radio telescope can be accessed.

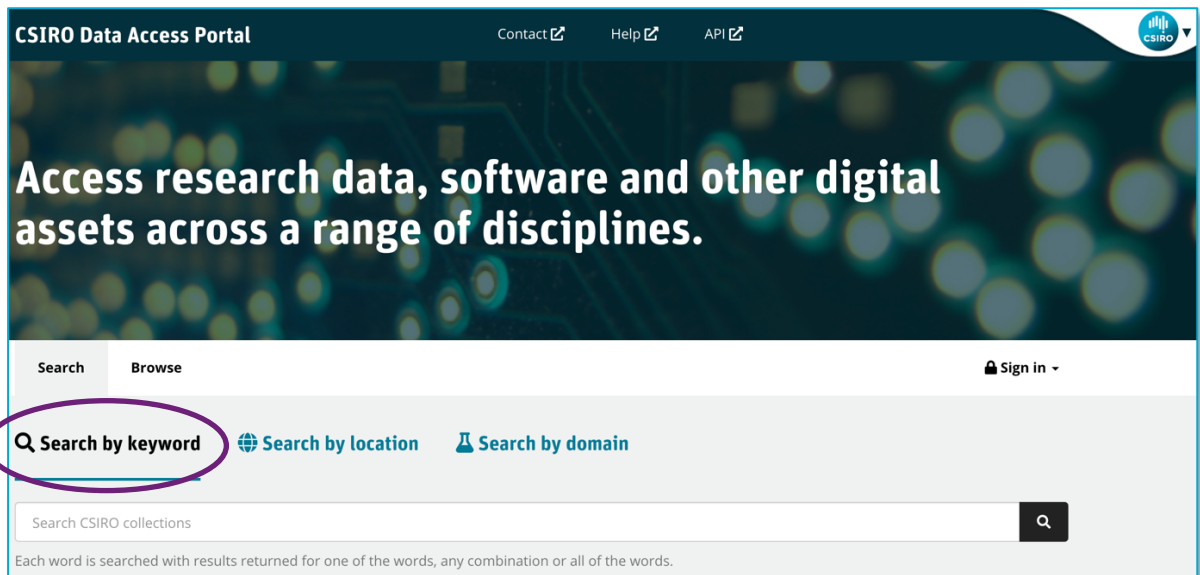
## Pulsar data: Accessing data from CSIRO's Data Access Portal (DAP)

CSIRO's DAP is the most comprehensive archive for Parkes pulsar data available globally, with a volume of ~2 Petabytes and containing observations dating from the early 1990's to today.

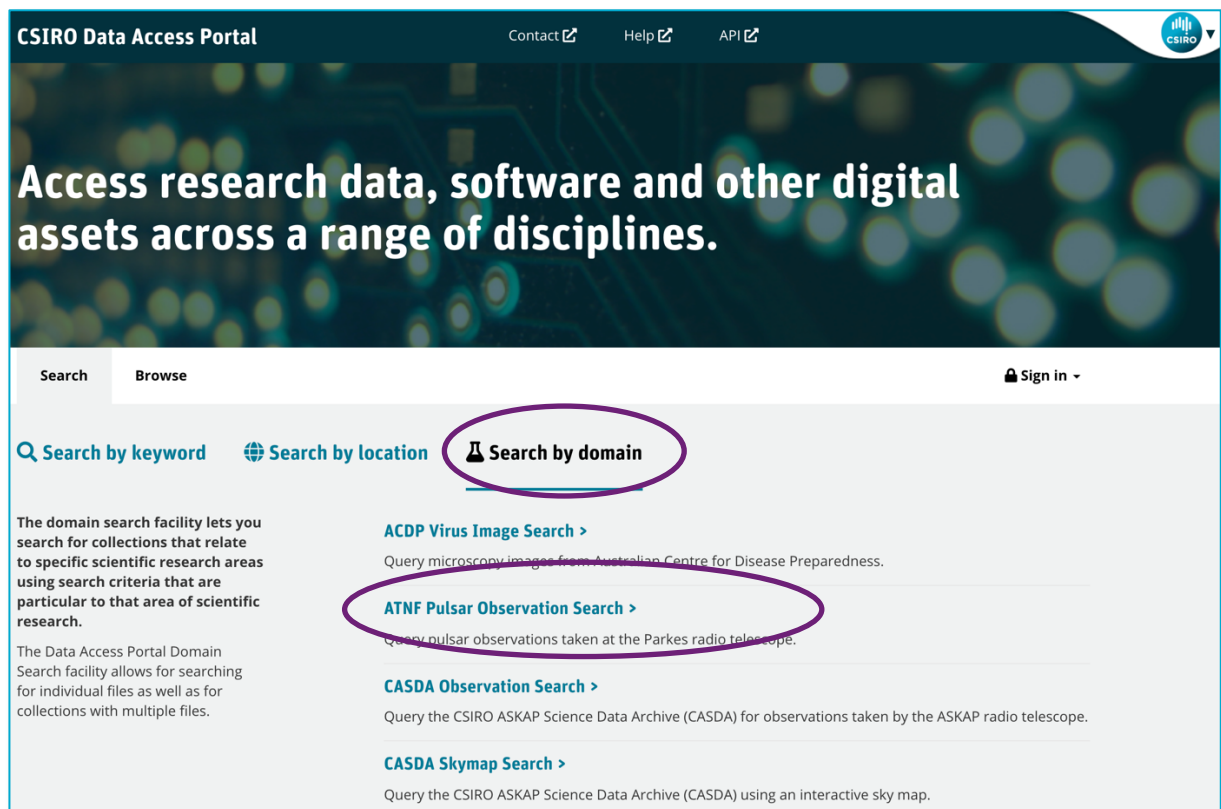
Data can be accessed by 2 main end-points: through a web browser for small requests or via a WebDAV mount point for large volumes. Follow the step-by-step guide below on how to access data using both the browser and WebDAV end-points.

### STEP 1: Conduct a search query

- Navigate to <https://data.csiro.au>
- Search for your data either:
  - a) by conducting a keyword search, for example by Project ID:



Or b), by conducting a specific 'ATNF Pulsar Observation Search', for example by source name, position, MJD, backend or filename:



## STEP 2: Request access to a collection

- In the following example, the keyword search query for Project ID 'P456' returned a list of 297 collections, and the '2020APRS\_17' collection was selected:

The screenshot shows the CSIRO Data Access Portal search results for the keyword 'P456'. The search bar at the top contains 'P456'. Below the search bar, there are filters for 'Published date' with options: 'within last year (74)', 'within last month (5)', 'within last week (1)', and 'within last day (0)'. The results are displayed on page 1 of 297 results, with 25 items per page. The first result is 'Parkes observations for project P456 semester 2020APRS\_17', which is circled in purple. The result includes the authors 'George Hobbs, Dick Manchester, John Sarkissian, Matthew Bailes, Ramesh Bhat, Michael Keith, William Cole...' and a brief description of the Parkes Pulsar Timing Array (PPTA) project.

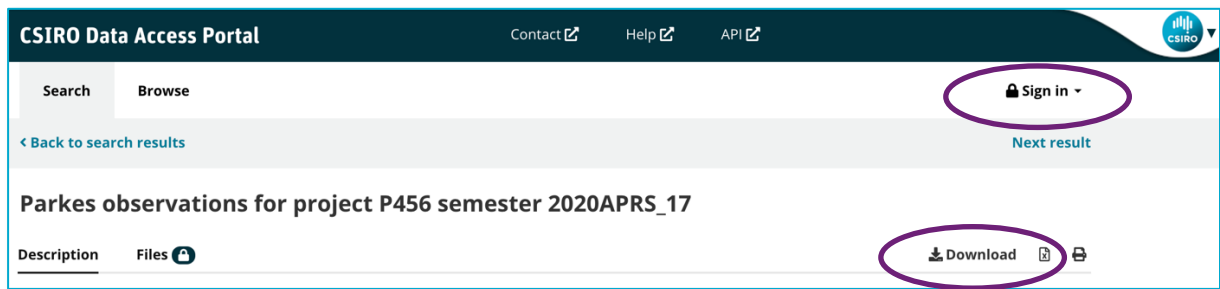
The screenshot shows the detailed view of the collection 'Parkes observations for project P456 semester 2020APRS\_17'. The page has a header with 'Search' and 'Browse' tabs, and a 'Sign in' button. Below the header, there are navigation links: '< Back to search results' and 'Next result >'. The main content area is divided into two sections: 'Description' and 'Files'. The 'Description' section contains the following information:

- About this collection**
- Authors:** George Hobbs, Dick Manchester, John Sarkissian, Matthew Bailes, Ramesh Bhat, Michael Keith, William Coles, Willem van Straten, Chris Russell, Stefan Osłowski, Matthew Kerr, James Dempsey, Ryan Shannon, Jingbo Wang, Jane Kaczmarek, Xingjiang Zhu, Shi Dai, Daniel John Reardon, Renee Spiewak, Lei Zhang, Songbo Zhang, Aditya Parthasarathy
- Collection description:** The Parkes Pulsar Timing Array (PPTA) project has three primary goals: (a) detection of gravitational waves from astronomical sources, (b) establishment of a pulsar timescale, and (c) improvement of our understanding of Solar-system dynamics. The PPTA is the oldest of three international pulsar timing groups. We have the smallest telescope and the smallest group, but the best measurements and the best results. Our bound on the strength of the incoherent gravitational wave background is the only bound which significantly constrains theoretical models. We have maintained our leading position because: we have the southern sky; we have a small but well-focussed group; we have the best-calibrated receivers; and we have been able to observe with an almost regular cadence of 15 to 20 days over a wide bandwidth. With this proposal we aim to maintain our pre-eminent position in the field. Unlike most observing proposals, this is a continuing proposal for which the observations will continue to improve bounds on ultra-low-frequency gravitational waves until they are finally detected. Continued Parkes observations will remain valuable at least until the first stage of the SKA is able to improve on our sensitivity and observing cadence. Even after the gravitational wave background is detected we will want to continue observations in support of the nascent field of gravitational wave astronomy!

The 'Files' section contains the following information:

- Data**
- Published:** 07 Dec 2020
- Contact:** CSIRO Enquiries, CSIROEnquiries@csiro.au, 1300 363 400
- Licence:** Creative Commons Attribution 4.0 International Licence
- Permalink:** <https://doi.org/10.25919/5kgz-8971>

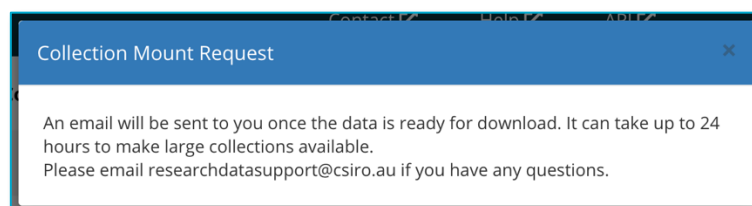
- If the collection is under embargo and you are listed on the OPAL proposal for the Project ID, you will need to log in at this point with your OPAL credentials in order to request the collection:



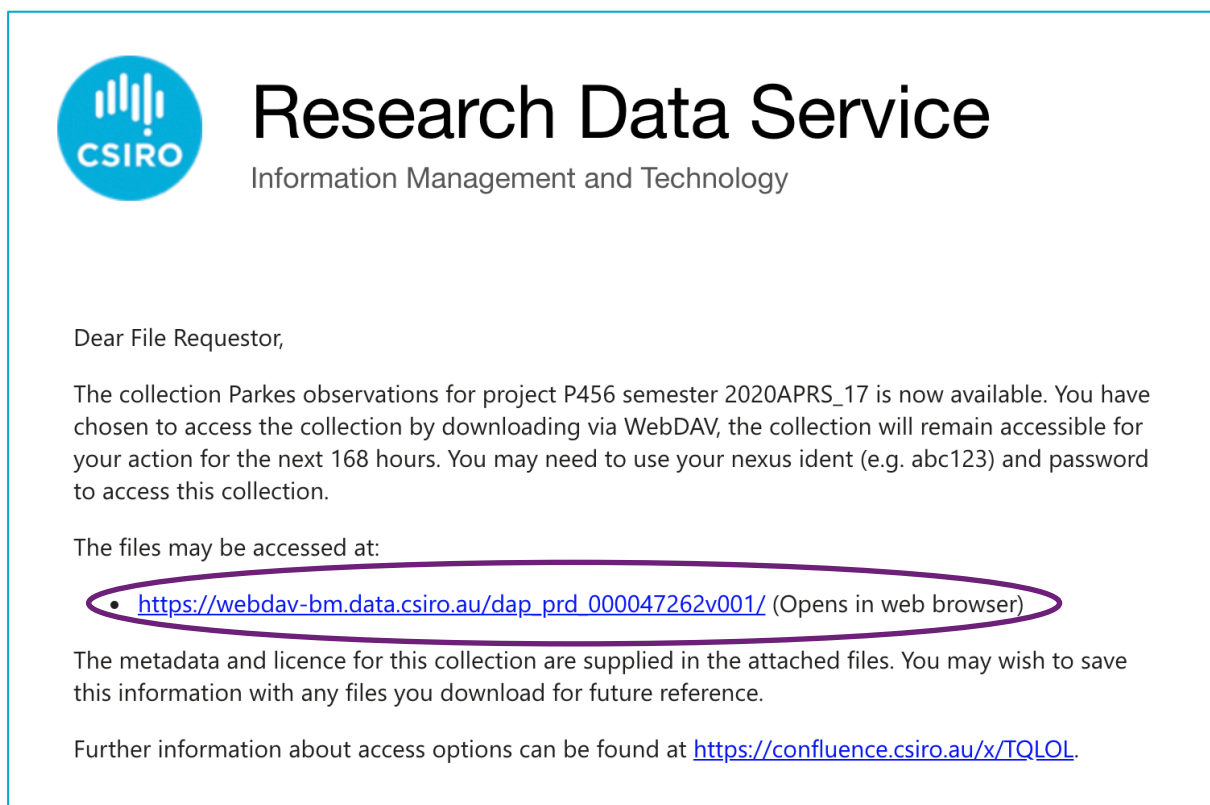
- Click 'Download' and choose from a list of download methods. Select 'Download all files via WebDAV', enter your email address and click 'Request files':

A screenshot of a 'Download' dialog box. It has a title bar 'Download' with a close button. Inside, there is a section 'Select a method' with a dropdown menu showing 'Download all files via WebDAV'. Below this is a 'Location' section with a dropdown menu showing 'Canberra'. Then there is an 'Email' section with a red asterisk and a text input field labeled 'Email Address'. At the bottom is a blue button labeled 'Request files'.

On receipt of the request you will see this pop-up dialogue:



- You will receive a confirmation email similar to the one below once the collection becomes available:



### STEP 3: Download your data

- Click on the link in the confirmation email - you will be prompted for your credentials, and the collection will then open in your web browser - this option is fine for retrieving a small number of files onto a laptop:



- For bulk download of large collections via WebDAV, please contact [Lawrence.Toomey@csiro.au](mailto:Lawrence.Toomey@csiro.au) for details of a script for automating this process – this is the preferred option for data retrieval

## ATNF Computer Account Holders

An ATNF/CASS computer account holder can download data to booked disk space on an ATNF machine.

- Log on to host *venice*, then a processing machine (e.g. *newton*)
- Check for booked disk space with:

```
bookings -u your_ident
```

- To request disk space, please email [bookings@atnf.csiro.au](mailto:bookings@atnf.csiro.au) with your requirements
- Configure your `~/.netrc` file, adding the following lines where `<pass>` is your NEXUS or OPAL password:

```
machine webdav-cl.data.csiro.au login <your_ident> password <pass>
machine webdav-bm.data.csiro.au login <your_ident> password <pass>
```

- Set the permissions correctly on the `~/.netrc` file:

```
chmod 600 ~/.netrc
```

- Run the download script with the following arguments if you requested an embargoed collection and are listed on the OPAL proposal for that collection:

```
get-dap-collection.sh --url https://webdav-cl.data.csiro.au/dap_prd_NNNNNNNNNvNNN --user your_ident --destdir /path/to/your_data_destination
```

Alternatively, run the following command if downloading a publicly available collection (out of embargo):

```
get-dap-collection.sh --url https://webdav-cl.data.csiro.au/dap_prd_NNNNNNNNNvNNN --user your_email_address --destdir /path/to/your_data_destination
```

Where 'your\_email\_address' is as stated on the DAP confirmation email.

An ATNF/CASS computer account holder can also access a selection of data available from the ATNF pulsar data archive.

- Log on to host *venice*
- Available archives are:

\$CASPSR\*

\$DFB\*

\$UWL\*

- Processing can be conducted directly on the processing host *cetus* or data can be copied to your institution

## Need help with data access?

Please contact [Lawrence.Toomey@csiro.au](mailto:Lawrence.Toomey@csiro.au) for further information.