
Preface

About this Guide

This manual describes how to apply for observing time, make a schedule file, and carry out an observation with the Australia Telescope Compact Array (ATCA).

This manual is a reference guide: you do not need to read all of it to use the ATCA. Chapter 1 describes the telescope and what you need to know before proposing to use it. Chapter 2 can be read after getting observing time on the ATCA. It describes how to prepare for your observations. Chapter 3 deals with the online software and all the details of how to actually do your observations. Chapter 4 goes into detail about what to do with your data after it has been collected. The appendices provide additional details above and beyond what will usually be required for routine observing.

In 2009 April there was a major overhaul of this manual: the structure was changed, the presentation of the document on the web and in print was improved, and the content was significantly updated. Copies of this manual and other ATNF documentation can be obtained from the ATNF webpages:

<http://www.atnf.csiro.au/observers/manuals.html>

If you find that any part of the Compact Array doesn't work as described in any of our documentation, please email the ATUG editorial team (atca_userguide@atnf.csiro.au), or start a conversation at the ATCA Forum (<http://atcaforum.freeforums.org>).

Comments on documentation are *especially* welcomed. At the bottom of each web page of the guide is a comment box that anyone can use to leave a comment about the content on that page. Please feel free to suggest improvements, leave comments or communicate your experiences with other observers and the editors.

If you are completely new to radio interferometry, the following reading is recommended:

- Remind yourself about Fourier theory — an appropriate summary can be found in Chapter 1 of Bracewell (1978, 1986, 1999)
- Review the principles and techniques of radio-astronomy, e.g., Kraus (1986); Christiansen & Hogbom (1985); Thompson, Moran & Swenson (1986, 2001). The latter is probably the best single book on the subject of radio interferometry
- Read the introductory chapters of one of the NRAO Synthesis Imaging Summer School lectures in Perley, Schwab & Bridle (1989) or Taylor, Carilli & Perley (1999).
- Perhaps also look at Galactic and Extragalactic Radioastronomy by Verschuur & Kellermann (1988) if you are not already familiar with the field.

ATNF Staff Contacts

Throughout this manual there are places where you are advised to contact someone on the ATNF staff for further information. The list of people filling these roles is in [People to contact \(page 111\)](#).

Conventions

In this manual we use some typographical conventions to help clarify the presentation.

Terms that are introduced for the first time are *italicized*.

Command Examples

Computer system names and program names appear in a different typeface, e.g. XBONES is the name of one of the ATCA observing control computers and ATCAOBS is the name of the main ATCA observing program.

Command examples and filenames appear in a fixed-width typeface and separated from the normal flow of text. To indicate the context, the commands are shown with the program's command prompt or the operating system's prompt. For example:

```
caobs> track 1
```

is the command used to track an object, in the ATCAOBS program. It may seem obvious, but you should **not** type the text of the prompt when entering commands.

Optional command parameters appear [in square brackets]. Do not type these brackets when entering commands.

When there are several options for the value of a command parameter, the options are shown separated by the | character. For example:

```
caobs> corr attens [{on|off}]
```

shows that the `corr attens` command has an optional parameter which can take the values `on` or `off`. Type only the option you choose and omit the | character when entering the command.

Another example - when running the `ls` command from the operating system shell, to list the files in a directory:

```
$ ls
```

The '\$' is the operating system prompt, and the command is 'ls'.

Linux/UNIX is case-sensitive, so operating system commands must be typed in the correct case (usually lower case).

Environment Variables

Another important notation is for *environment variables* set in the operating system shell. These are frequently used as shorthand references in the running text. They are shown in fixed-width font and prefixed with a \$ sign, for example:

The `$ATCA_SCHED` environment variable contains the name of the directory where the scheduler program is installed. It is automatically set on login. The usual setting is `/atomsexport/caobsonline/caobs_sched`.