



FAULKES TELESCOPE

## Observation Planning

# Planning an observing session with StarAlt

*Author: Fraser Lewis  
Edited by: Sarah Roberts*

## Planning an observing session with StarAlt

### Introduction

Staralt is a program that shows the observability of objects in a variety of ways. It can be accessed from:

<http://www.ing.iac.es/ds/staralt/index.php>

With Staralt you can:

1. Plot the altitude of an object against time for any given night (**Staralt**)
2. Plot the path of an object across the sky for a particular night (**Startrack**)
3. Plot how the altitude of an object changes over the course of a year (**Starobs**)
4. Get a table with the best observing date for each object (**Starmult**)

### Staralt

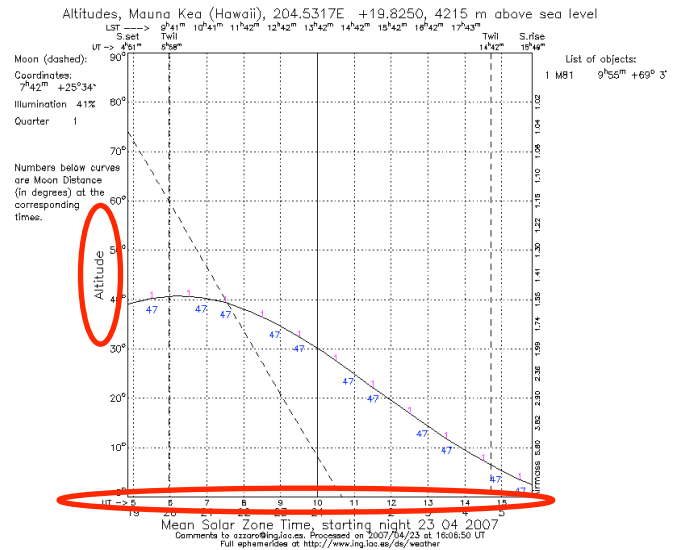
The page is initially set up in '**Staralt**' mode, whereby the date of the observing session can be selected, along with the location. FT South is at Siding Spring, FT North's location can be approximated by using the 'Mauna Kea' option from the dropdown menu.

The screenshot shows the 'Object Visibility - Staralt' web form. The 'Observator' dropdown menu is circled in red. The 'Coordinates' field is empty. The 'Options' section includes 'Moon Distance' (set to 10), 'Min. Elevation' (set to 10), and 'Output Format' (set to Gif-HTML). The 'Submit Request' section has 'Retrieve' and 'Help' buttons. Red arrows point from the text on the right to the Observator dropdown, the Coordinates field, and the Submit Request buttons.

Objects to be imaged can have their co-ordinates entered in the co-ordinates box in the format hh mm ss ±dd mm ss. An identifier can be used such as 'M81' in the format 'M81 09 55 33 +69 03 55'. Decimal points are accepted but Staralt does not require them to produce accurate plots. If you only have an objects RA and dec to arcminute accuracy, don't forget to add in '00' as the value for arcseconds.

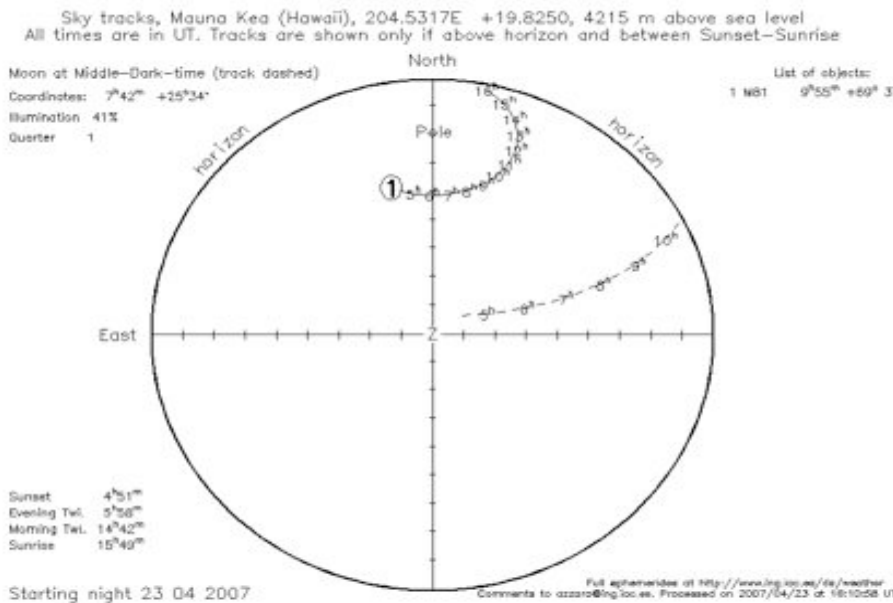
I always include the 'Moon Distance' on the plot as it displays both the phase of the Moon and its proximity to the objects to be imaged.

The example to the right shows that M81 is at its highest point in the sky at 06:00 UT, and that it disappears below 30° from the horizon 10:00UT. During the course of the night, it maintains a distance of 47° from the Moon.



### Startrack

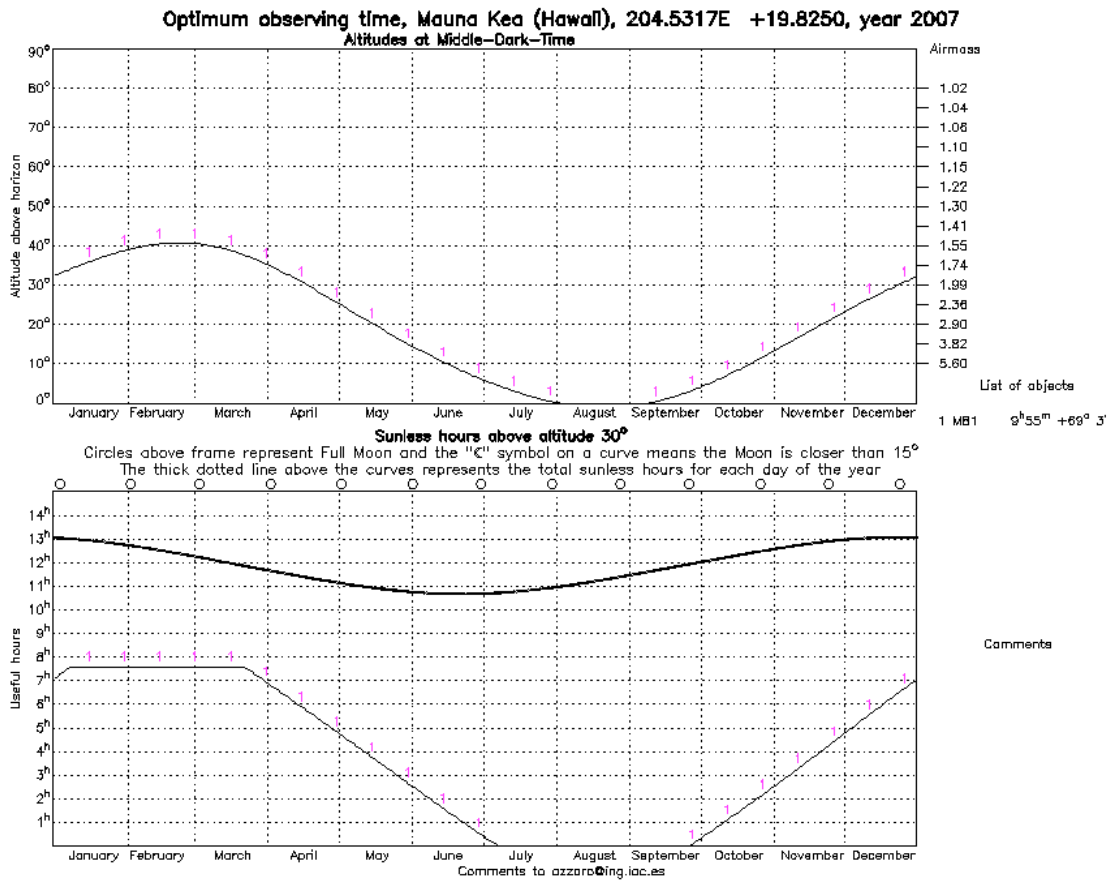
This page shows the path of M81 through the night sky as viewed from Mauna Kea over the course of the whole night. This is a particularly useful function for observing 'in person', but less useful for automated or robotic-type observing.



The example above shows the path of M81 (marked 1) through the night sky on a given night, as well as displaying the path of the Moon (dashed line). The point Z is the zenith, which denotes the point of the sky directly overhead.

## Starobs

This page shows the best time of the year at which to view an object. In the example below, the upper diagram shows that the object is best viewed between January and March. By selecting **30 degrees** in the 'minimum elevation' box, the lower diagram shows that the object will not be able to be imaged between June and October.



## Starmult

This displays similar information to **Starobs** but in a table, and is probably of little use to regular users of the FT.