# Remote Imaging

Len Adam

THREE QUESTIONS:

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1. HOW MANY PEOPLE HAVE ACCESS TO A TELESCOPE WITH AN APERTURE OF MORE THAN 30 INCHES ?

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2. HOW MANY PEOPLE HAVE INTERNET ACCESS?

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1. HOW MANY PEOPLE HAVE ACCESS TO A TELESCOPE WITH AN APERTURE OF MORE THAN 30 INCHES ?

2. HOW MANY PEOPLE HAVE INTERNET ACCESS?

3. HOW MANY PEOPLE HAVE TAKEN IMAGES USING TELESCOPES IN OTHER COUNTRIES VIA THE INTERNET ?

# Remote Imaging

# Remote Imaging

How to add a new dimension to your observing.

# WHY USE A REMOTE TELESCOPE?

# WHY USE A REMOTE TELESCOPE?

SOME REASONS

# WHY USE A REMOTE TELESCOPE?

SOME REASONS

YOU MAY NOT OWN
A TELESCOPE BUT
YOU OWN A
COMPUTER

THE OBJECT YOU WANT TO IMAGE MAY BE IN THE SOUTHERN HEMISPHERE

YOUR TELESCOPE MIGHT BE TEMPORARILY OUT OF ACTION

# YOU MAY BE DOGGED BY TELESCOPE MISHAPS

YOU MAY BE DOGGED BY TELESCOPE MISHAPS

AND

BE UNABLE TO FIND A TIME TRAVELLING SCIENTIST TO REPAIR IT

YOU MAY WANT TO USE A TELESCOPE WITH A LARGER APERTURE

PERHAPS YOUR MOUNT IS NOT SUITABLE FOR ASTROPHOTOGRAPHY

YOUR ONLY POSSIBLE TELESCOPE SITE HAS AN OBSTRUCTED VIEW IN ONE OR MORE DIRECTIONS


STRADA

OR MAYBE YOU MISSED THE LOCAL ASTRO SOC MEETING ABOUT HOW TO USE A TELESCOPE


Image by Dave Walker

But - we all know what the usual reason for wanting to use a telescope in a different part of the world:

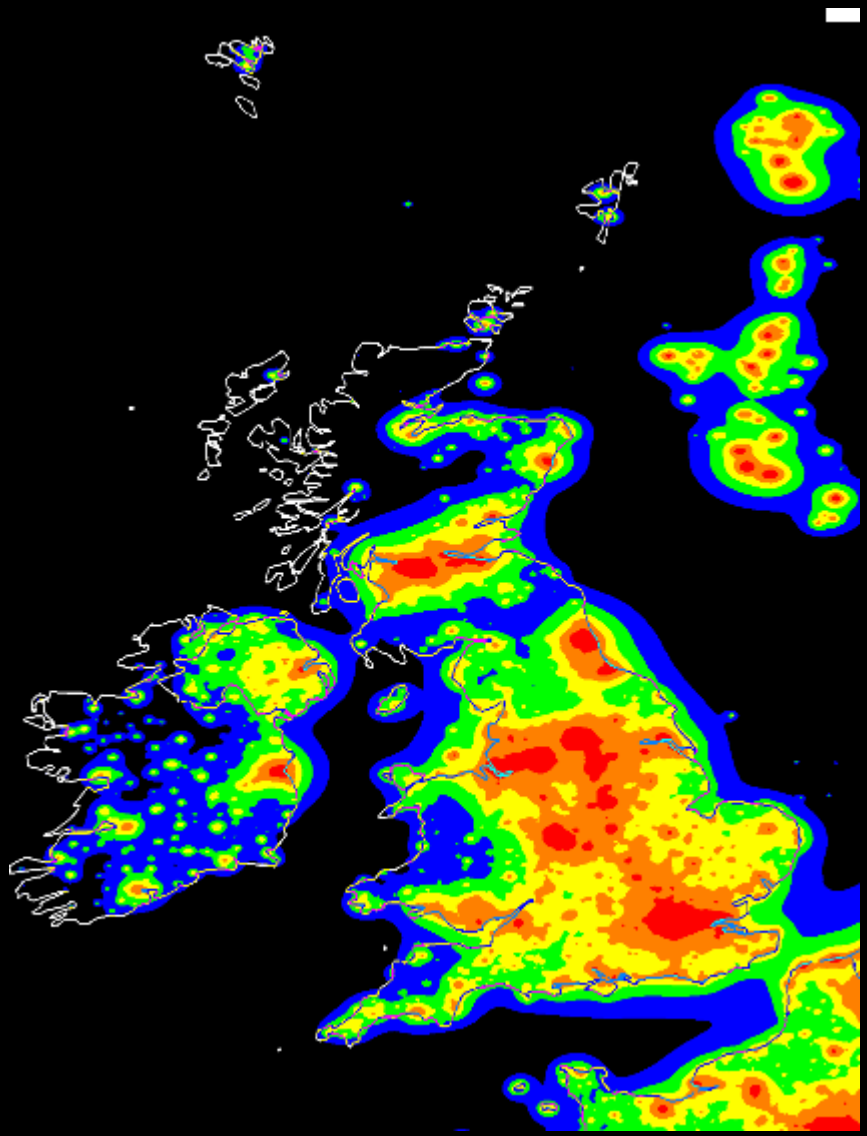
But - we all know what the usual reason for wanting to use a telescope in a different part of the world:

THE BRITISH WEATHER

# THE BRITISH WEATHER


JUST BOUGHT A NEW
TELESCOPE WEATHER

And of course we are troubled by light pollution in the UK



**ASTRONOMERS DO EVERYTHING THEY CAN TO MINIMISE LIGHT POLLUTION**


OR DO THEY?

SO YOU HAVE THREE OPTIONS:


1. WAIT FOR THE CLOUDS TO GO AWAY

# 2. GO WHERE THERE ARE LESS CLOUDS


2. GO WHERE THERE ARE LESS CLOUDS

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2. GO WHERE THERE ARE LESS CLOUDS

OPTION3: USE TECHNOLOGY TO USE A TELESCOPE REMOTELY

IF YOU HAVE INTERNET ACCESS YOU CAN START YOUR REMOTE IMAGING TONIGHT

# FOUR REMOTE TELESCOPE SYSTEMS FOR YOU TO CONSIDER

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- THE FIRST THREE SYSTEMS REQUIRE YOU TO "PLACE AN ORDER" FOR AN IMAGE TO BE TAKEN AND THEN WAIT FOR IT TO BE DELIVERED BY EMAIL OR FOR AN EMAIL NOTIFICATION THAT YOU CAN DOWNLOAD IT BY FTP.

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- THE FIRST THREE SYSTEMS REQUIRE YOU TO "PLACE AN ORDER" FOR AN IMAGE TO BE TAKEN AND THEN WAIT FOR IT TO BE DELIVERED BY EMAIL OR FOR AN EMAIL NOTIFICATION THAT YOU CAN DOWNLOAD IT BY FTP.

- THE FOURTH SYSTEM ALLOWS YOU TO CONTROL THE REMOTE TELESCOPE DIRECTLY AND TO OBTAIN THE IMAGE IMMEDIATELY.

FOUR REMOTE TELESCOPE SYSTEMS FOR YOU TO CONSIDER:

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1. NASA funded ***MicroObservatory Remote Telescope Network*** *from the* ***Harvard-Smithsonian Center for Astrophysics*** *using 6 inch Maksutov telescopes in* ***Arizona and Massachusetts. (FREE)***

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4. ***The iTelescope.net (formerly Global Rent-a-Scope) network of 12 telescopes with telescopes in New Mexico USA, Nerpio Spain , Victoria Australia. Includes a 6 inch refractor, 10 inch astrograph, 12.5, 17 and 20 inch Dall-Kirkham Astrographs, 3 and 4 inch wide field refractors. (Subscription required)***

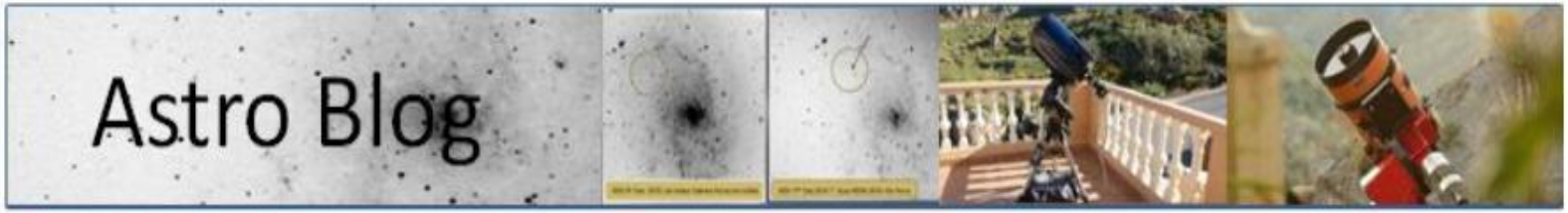
# Leyland Observatory

Len Adam ( lenadam@sky.com ) Len Adam's Website

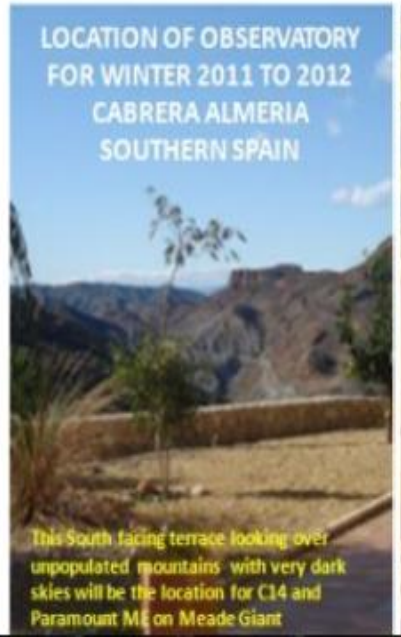


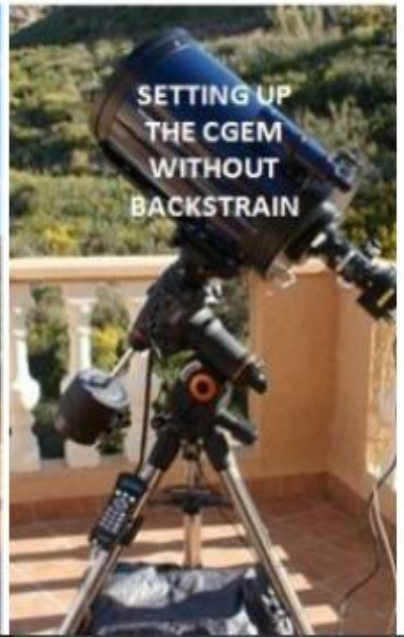


*Click on Astro Blog box below for latest Astro News and Images from Len Adam*




Latest Astro Blog: ***Near miss on M95 supernova*** Latest Wildlife Diary image:***Greenfinch from Casa Santiburi***





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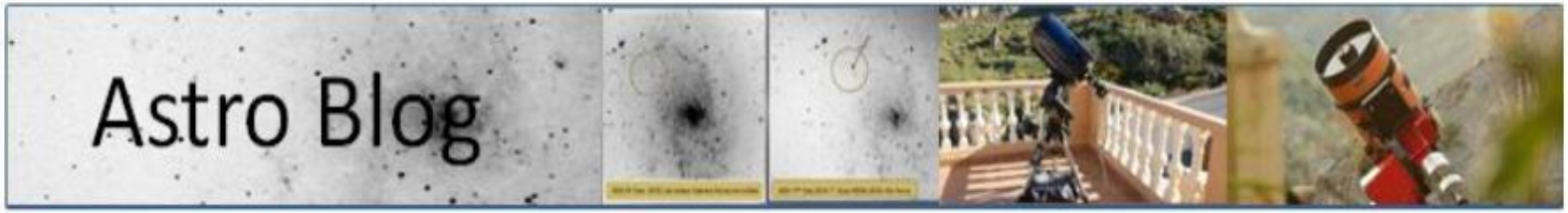


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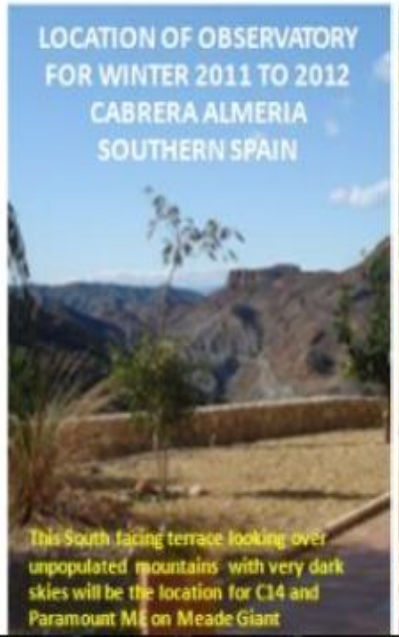


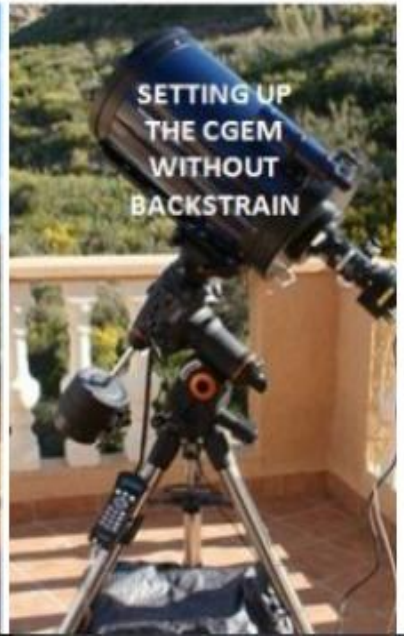



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## Astronomical Societies UK

Links to the websites of UK based Astronomical Societies

- British Astronomical Association
  The leading astronomical society for amateurs in the UK, Formed in 1890, the British Astronomical Association has an international reputation for the quality of its observational and scientific work. Membership is open to all persons interested in astrono
- Society for Popular Astronomy
  There's so much happening in the skies above. The Society for Popular Astronomy brings the excitement of the universe to everyone. Whether you are young or old, a beginner or an experienced skywatcher, you'll get a great deal from the SPA,"
- The Federation of Astronomical Societies
  "The Federation of Astronomical Societies aims to be a body of societies united in their attempts to help each other find the best ways of working for their common cause of creating a fully successful astronomical society"
- Aylesbury Astronomical Society
  "The aim of the Aylesbury Astronomical Society (AAS) is to advance the education of the public in Astronomy."
- The Baker Street Irregular Astronomers
- Bedford Astronomical Society
  "The Bedford Astronomical Society was formed in January 1987 by a small group of people with a common interest in astronomy. We have now grown to approximately 100 members and cater for all ages, levels of interest and abilities. "
- Bolton Astronomical Society
  I have been a member of this local society since 2009. It is not too far from Leyland. "The Bolton Astronomical Society is a local group of

## Astronomical Societies Spain

- Orion Astronomical Society Almeria
- Wiki List of Spanish Astronomical Societies
- Javea Astronomy Club Costa Blanca
  The Jávea District Astronomical Society meets every 3rd Thursday of the month. If you are a keen astronomer or simply have an interest in looking at and learning about the night sky, then come along and join us. For further information contact Ed Morley

## Remote Imaging Telescopes

- Harvard MicroObservatory
- Microobservatory Image Software Download
- Bradford Robotic Telescope
- Sierra Stars
- BAA Robotic Telecope Project Presentation by Peter Meadows
- i-Telescope.net

# SYSTEM 1
# MICRO-OBSERVATORY

# MicroObservatory Robotic Telescope Network


Welcome to the MicroObservatory Robotic Telescope Network operated by the Harvard-Smithsonian Center for Astrophysics.

**Explore** the Universe with telescopes you control over the internet!

Follow Us

| Telescope | Local Weather | Telescope Status | View Queue |
|---|---|---|---|
| Ben | Cambridge, MA | Offline | empty |
| Cecilia | Amado, AZ | Online | 90 entries |
| Donald | Amado, AZ | Online | 39 entries |
| Ed | Cambridge, MA | Offline | 72 entries |

The MicroObservatory telescopes are an original Maksutov design, with a 6 inch spherical primary mirror and a 5 1/4 inch corrector. There is a 2 inch diagonal mirror which sends the light through a small, low power lens for focussing adjustments, then through a filter wheel with clear, blue (B), yellow-green (V), red (R), infra-red (IR), and neutral density (ND-4) filters. The filter wheel also has an opaque setting that allows for calibration and protection of the charge-coupled device (CCD) light sensor. The overall focal length is 560 mm.

The MicroObservatory also has a finder, which uses a 28 mm focal length Minolta camera lens.

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The MicroObservatory Telescopes use Kodak charge-coupled device (CCD) image sensors: the finder camera uses a KAF0400, and the main camera uses a KAF1400. Both are cooled by two-stage thermo-electric coolers, and dark currents are normally quite low.

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## Explore

**the Universe with telescopes you control over the internet!**

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## MicroObservatory Access Portals

- **Observing with NASA** — MicroObservatory for everyone!
- **other worlds/other earths** — Explore exoplanets! *For teachers and students*
- **MicroObservatory Online Telescopes** — Full access legacy portal *Login required*
- **Other Earths** — Coming Soon!

- Users control the MicroObservatory telescopes and download their images themselves, with no human intervention in the loop.

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- You can access the Observing With NASA "Control Telescope" web interface at anytime.

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•The telescopes are weatherproof and do not require a dome for protection, and the "Control Telescope" software automatically lets users know which targets are up that night.

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•After you choose your target and select an exposure time, colour filters and other parameters, you submit your email address along with your request for the telescope to take the image that night.

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•After you choose your target and select an exposure time, colour filters and other parameters, you submit your email address along with your request for the telescope to take the image that night.

•The next day (or within 48 hours) you will receive an email notification with links to access and download your very OWN image.

## About MicroObservatory

**MicroObservatory is a network of automated telescopes that can be controlled over the Internet.** The telescopes were developed by scientists and educators at the Harvard-Smithsonian Center for Astrophysics and were designed to enable youth nationwide to investigate the wonders of the deep sky from their classrooms or after-school centers. They are located and maintained at observatories affiliated with the Center for Astrophysics, including the Harvard College Observatory in Cambridge, MA and the Whipple Observatory in Amado, AZ.

The MicroObservatory remote observing network is composed of several 3-foot-tall reflecting telescopes, each of which has a 6-inch mirror to capture the light from distant objects in space. Instead of an eyepiece, the MicroObservatory telescopes focus the collected light onto a CCD detector (an electronic chip like that in a digital camera) that records the image as a picture file with 650 x 500 pixels.

Youth from the Citizen Schools after-school program in Boston visit the MicroObservatory Telescope that they have been using

### Using This Website to Control the Telescopes

A comparison of the Orion Nebula as imaged by NASA's Great Observatory (Hubble) and MicroObservatory (inset)

This *Observing With NASA* website is part of a NASA-funded project to make the MicroObservatory robotic telescopes accessible to all audiences who want to appreciate and understand the amazing images and data from NASA's space science missions. Using many of the same technologies that NASA uses to capture astronomical images by controlling telescopes in space, YOU can control a sophisticated ground-based telescope from the convenience of your computer.

Users control the MicroObservatory telescopes and download their images themselves, with no human intervention in the loop. You can access the Observing With NASA "Control Telescope" web interface at anytime. The telescopes are weatherproof and do not require a dome for protection, and the "Control Telescope" software automatically lets users know which targets are up that night. This means that even first-time observers can control the instrument without dependence on a telescope operator or other outside "experts."

After you choose your target and select an exposure time, color filters and other parameters, you submit your email address along with your request for the telescope to take the image that night. The next day (or within 48 hours) you will receive an email notification with links to access and download your very OWN image.

# Observing With NASA

MicroObservatory Robotic Telescope Network
Harvard-Smithsonian Center for Astrophysics



## Control your OWN telescope using the MicroObservatory Robotic Telescope Network

LINK

NASA's space science researchers control some of the world's most sophisticated space probes and orbiting telescopes to get amazing images of objects in space. Now YOU can join them by operating your OWN ground-based "MicroObservatories" - real robotic telescopes that you command through this website!

Top panel: Students controlling MicroObservatory Telescope, image taken with MicroObservatory telescope.
Bottom panel: Scientists controlling Hubble Telescope, image taken with Hubble telescope

### News & Views

April is Global Astronomy Month! Enter our Image Contest!

### Share Your OWN Images

Facebook Like 215

Flickr

### History of Telescopes

Explore the history of telescopes with Telescopes From The Ground Up

# Observing With NASA

MicroObservatory Robotic Telescope Network
Harvard-Smithsonian Center for Astrophysics



## Select Your Target

The telescope will take an image of your selected target.
Prior to selecting your target, you can click on the thumbnail to see a detailed view.

### Solar System


Moon
OBSERVE


Jupiter
OBSERVE


Jupiter's Moons
OBSERVE


Venus
OBSERVE


Saturn
OBSERVE


Mars
OBSERVE

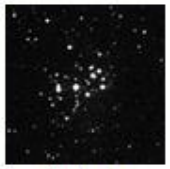

Sun
OBSERVE


Asteroid
OBSERVE

### Stars & Nebulae

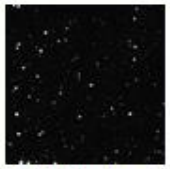

Hercules Cluster
OBSERVE


Orion Nebula
OBSERVE

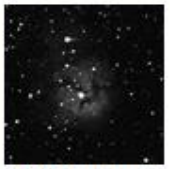

Pleiades
OBSERVE


Ring Nebula
OBSERVE


Milky Way
OBSERVE


Sagittarius A
OBSERVE


Dumbbell Nebula
OBSERVE


Trifid Nebula
OBSERVE

Lagoon Nebula

OBSERVE

Eagle Nebula

OBSERVE

Crab Nebula

OBSERVE

Cyg X-1

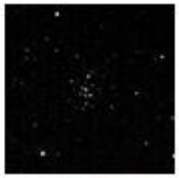
OBSERVE

Messier 46

OBSERVE

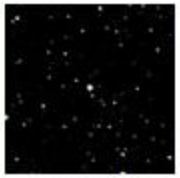
Messier 15

OBSERVE



Beehive Cluster

OBSERVE



CQ Ceph

OBSERVE

## Galaxies & Beyond

Andromeda Galaxy

OBSERVE

Whirlpool Galaxy

OBSERVE

Messier 33

OBSERVE

Pinwheel Galaxy

OBSERVE

Centaurus A

OBSERVE

Messier 81

OBSERVE

Irregular Galaxy

OBSERVE

NGC 253

*Not up tonight*

3C 273

OBSERVE

NGC 891

OBSERVE

NGC 4013

OBSERVE

NGC 2543

OBSERVE

NGC 4124

OBSERVE

Messier 87

OBSERVE

Messier 58

OBSERVE


Lagoon Nebula

OBSERVE


Eagle Nebula

OBSERVE


Crab Nebula

OBSERVE


Cyg X-1

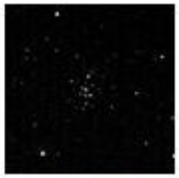
OBSERVE


Messier 46

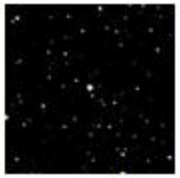
OBSERVE


Messier 15

OBSERVE


Beehive Cluster

OBSERVE


CQ Ceph

OBSERVE

## Galaxies & Beyond


Andromeda Galaxy

OBSERVE


Whirlpool Galaxy

OBSERVE


Messier 33

OBSERVE


Pinwheel Galaxy

OBSERVE


Centaurus A

OBSERVE


Messier 81

OBSERVE


Irregular Galaxy

OBSERVE


NGC 253

*Not up tonight*


3C 273

OBSERVE


NGC 891

OBSERVE


NGC 4013

OBSERVE


NGC 2543

OBSERVE


NGC 4124

OBSERVE


Messier 87

OBSERVE


Messier 58

OBSERVE

**Centaurus A**

Object Type: Galaxy  Distance: 14 million light years  Constellation: Centaurus

Centaurus A is a strange looking galaxy with a dark secret. In your OWN image of Cen A, can you find the dust lane across the face of the galaxy? This is the remnant of a spiral galaxy that collided with Centaurus A millions of years ago. The collision provided lots of gas and dust as food for a giant black hole at the center of Cen A, which is now feeding voraciously. To expose the hidden heart of this galaxy, you need a telescope that detects X-ray light. Compare your OWN image of Cen A to the one taken by NASA's Chandra X-ray Observatory.

Explore more with NASA's Chandra X-ray telescope

OBSERVE

# Adjust Your Telescope Settings

The options you choose will be sent to the telescope and it will take your image tonight using these settings.

## Centaurus A

Object Type: Galaxy  Distance: 14 million light years  Constellation: Centaurus

### Asteroid Selection

**Normal View - 1°**
Good setting for most objects

There is only one field of view option for this object.

### Exposure Time

15 seconds

30 second

45 seconds

60 seconds

optimal exposure time

### Filter Selection

**No Filter**
all light let through

There is only one filter option for this object. This filter is the optimal setting.

# OBSERVING WITH NASA

MicroObservatory Robotic Telescope Network
Harvard-Smithsonian Center for Astrophysics



## Provide your contact information

Please provide your email address. We will send you your target image as soon as it is ready.
We also ask you to provide us with additional information so we can learn more about who is using this web site.

Email Address:
lenadam@sky.com
☑ Remember me on this computer

Age: choose  Gender: Male

State: Outside US

How often have you used these telescopes? More than 10 times

How would you rate your astronomy knowledge on a scale of 0 to 10 if 0 is "no knowledge at all" and 10 is "astronomy expert?" 8

May we contact you in the future about your MicroObservatory use?
Yes ☑

SUBMIT

# Observing With NASA

MicroObservatory Robotic Telescope Network
Harvard-Smithsonian Center for Astrophysics

Control Telescope | Projects & Activities | Tools & Training | Download Software | News & Views | About MicroObservatory

Choose Target → Adjust Settings → Provide Information → Submit

## Your request for a telescope image has been submitted!

Here are your settings that will be used by the telescope to take an image tonight:

**Target: Centaurus A**

Object Type: Galaxy  Distance: 14 million light years  Constellation: Centaurus

Field of View: normal  Exposure Time: 60 Seconds  Filter Selection: none

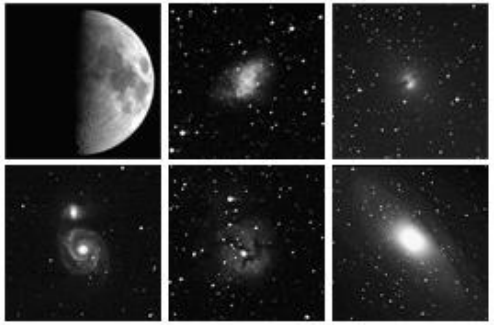
Your email address: lenadam@sky.com

Tomorrow or the next day you will receive an email notification from MicroObservatorySupport@cfa.harvard.edu with a link to download your image.

Keep your fingers crossed for clear skies!

What's next?

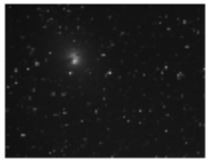
- To see recently-taken images, visit the MicroObservatory Image Directory
- To take more images, go to Control Telescope
- To find things to do with your images, explore Projects & Activities
- Compare your OWN images to NASA's Great Observatories - Hubble - Chandra - Spitzer
- Give us your feedback on your MicroObservatory experience



Dear ***MicroObservatory Guest Observer,***

Your Observing With NASA image of **Centaurus A** is ready!

To see and download your full-size image from your web browser, click on the links next to the thumbnail below.



Access your image of **Centaurus A**

View info on telescope settings for this image

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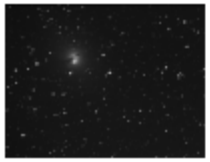


Access your image of **Centaurus A**

View info on telescope settings for this image

**Header:**

Observer's Username: moguest
Object: Centaurus A
Filenames: CentaurusA120324084228.GIF and CentaurusA120324084228.FITS
Date: Sat, Mar 24, 2012
Start Exposure: 01:42:28 AM
Reference Number: moguest-03/23-11:24:58g
Comments: MicroObservatory is run by the Harvard-Smithsonian Center for Astrophysics.
Town: Amado
State: AZ
Country: USA
Telescope's Name: Donald

**Camera:**

Camera: Main
Exposure Time: 60.00 sec.
Filter: Clear
Focus Value: 1750
Zoom: Out

**Misc:**

Hour Angle: 00h 01.6m
Local Siderial Time: 06:26:42
Greenwich Mean Time: 08:42:28
End Exposure: 01:43:30 AM
Longitude: 110.88
Latitude: 31.68
Mode of Operation: Interactive over WWW.
Tracking: Sidereal
CCD Temp: 268.00
Ambient Temp: 288.00
Circuit Temp: n/a
Finder Offsets: none

**Coordinates:**

**Celestial:**
Right Ascension: 13h 26.2m
Declination: -43 degrees 04 minutes

**Terrestrial:**
Altitude: 15 degrees 14.4 minutes
Azimuth: 180 degrees 18.5 minutes

# Observing With NASA

MicroObservatory Robotic Telescope Network
Harvard-Smithsonian Center for Astrophysics

Control Telescope | Projects & Activities | Tools & Training | Download Software | News & Views | About MicroObservatory

Choose Target → Adjust Settings → Provide Information → Submit

## Select Your Target

The telescope will take an image of your selected target.
Prior to selecting your target, you can click on the thumbnail to see a detailed view.

### Solar System


Moon
OBSERVE


Jupiter
OBSERVE


Jupiter's Moons
OBSERVE


Venus
OBSERVE


Saturn
OBSERVE


Mars
OBSERVE

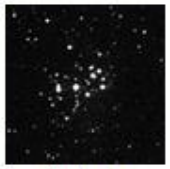

Sun
OBSERVE


Asteroid
OBSERVE

### Stars & Nebulae

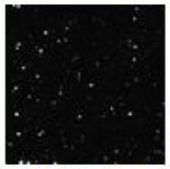

Hercules Cluster
OBSERVE


Orion Nebula
OBSERVE

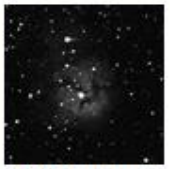

Pleiades
OBSERVE


Ring Nebula
OBSERVE


Milky Way
OBSERVE


Sagittarius A
OBSERVE


Dumbbell Nebula
OBSERVE


Trifid Nebula
OBSERVE

**Asteroid**

Object Type: Asteroid  Distance (closest to Earth): Variable

Asteroids are rocky remnants, most likely left over from when the Solar System formed. They come in various shapes and sizes. The smallest are a few feet across and the largest, Ceres, is a dwarf planet with a diameter of almost 1000 km! Most asteroids are in the asteroid belt, a ring of rocks between the orbits of Mars and Jupiter—but some do come near Earth! When you take your OWN image of an asteroid, you will receive three different images that catch the asteroid flying across the sky.

Explore more with NASA's Solar System Exploration.

OBSERVE

# Adjust Your Telescope Settings

The options you choose will be sent to the telescope and it will take your image tonight using these settings.

## Asteroid Selection


Astraea


Eunomia


Flora

The telescope will take multiple images of your asteroid several hours apart so you can track its motion across the background stars.

## Exposure Time


0.1 seconds


1 second


30 seconds


60 seconds

## Filter Selection


**No Filter**
all light let through

There is only one filter option for this object. This filter is the optimal setting.

Choose Target → Adjust Settings → Provide Information → Submit

# Adjust Your Telescope Settings

The options you choose will be sent to the telescope and it will take your image tonight using these settings.

## Asteroid Selection


Astraea


Eunomia


Flora

The telescope will take multiple images of your asteroid several hours apart so you can track its motion across the background stars.

## Exposure Time


0.1 seconds


1 second


30 seconds

✓ optimal exposure time


60 seconds

## Filter Selection


**No Filter**
all light let through

There is only one filter option for this object. This filter is the optimal setting.

CONTINUE




## Provide your contact information

Please provide your email address. We will send you your target image as soon as it is ready.
We also ask you to provide us with additional information so we can learn more about who is using this web site.

Email Address: lenadam@sky.com

☑ Remember me on this computer

Age: choose  Gender: Male

State: Outside US

How often have you used these telescopes? More than 10 times

How would you rate your astronomy knowledge on a scale of 0 to 10 if 0 is "no knowledge at all" and 10 is "astronomy expert?" 8

May we contact you in the future about your MicroObservatory use?
Yes ☑

SUBMIT

## Your request for a telescope image has been submitted!

Here are your settings that will be used by the telescope to take an image tonight:

**Target: Astraea**

Object Type: Asteroid  Distance:

Field of View: normal  Exposure Time: 30 Seconds  Filter Selection: none

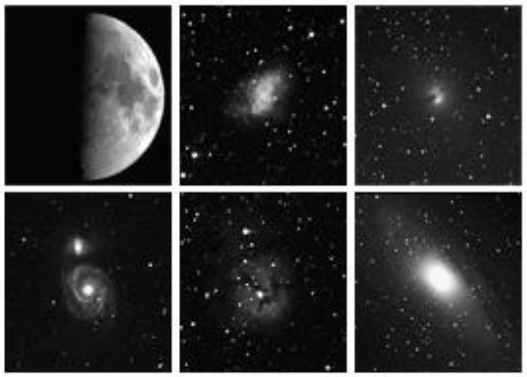
Your email address: lenadam@sky.com

Tomorrow or the next day you will receive an email notification from MicroObservatorySupport@cfa.harvard.edu with a link to download your image.

Keep your fingers crossed for clear skies!

What's next?

- To see recently-taken images, visit the MicroObservatory Image Directory
- To take more images, go to Control Telescope
- To find things to do with your images, explore Projects & Activities
- Compare your OWN images to NASA's Great Observatories - Hubble - Chandra - Spitzer
- Give us your feedback on your MicroObservatory experience



Dear ***MicroObservatory Guest Observer,***

Your Observing With NASA images of the asteroid **Astraea** are ready!

To see and download your full-size images from your web browser, click on the links next to the thumbnails below.

Access your First image of **Astraea**

View info on telescope settings for this image

Access your Second image of **Astraea**

View info on telescope settings for this image

Access your Third image of **Astraea**

View info on telescope settings for this image

Dear *MicroObservatory Guest Observer*,

Your Observing With NASA images of the asteroid **Astraea** are ready!

To see and download your full-size images from your web browser, click on the links next to the thumbnails below.

Access your First image of **Astraea**

View info on telescope settings for this image

Access your Second image of **Astraea**

View info on telescope settings for this image

Access your Third image of **Astraea**

View info on telescope settings for this image

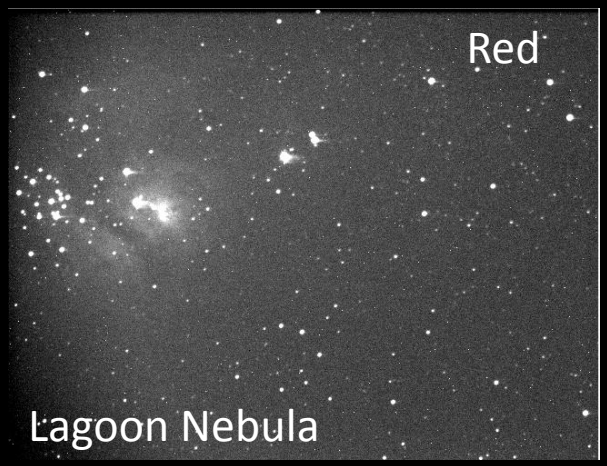
OTHER IMAGES FROM MICROOBSERVATORY TELESCOPES


NGC 891


Andromeda Galaxy

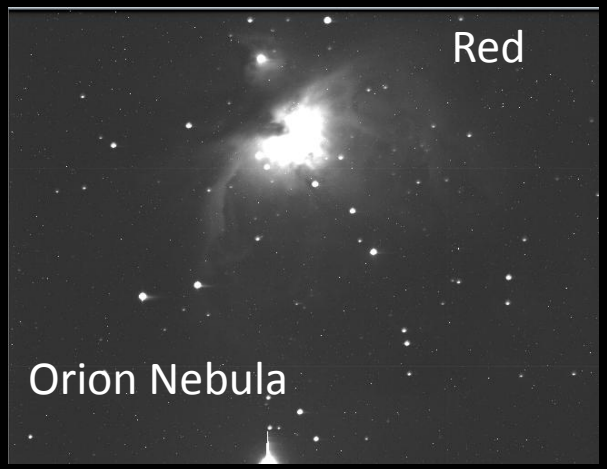

Quasar 3C-273

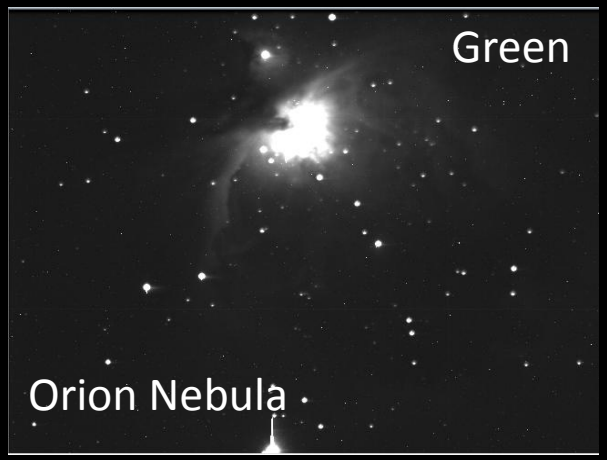

Irregular Galaxy

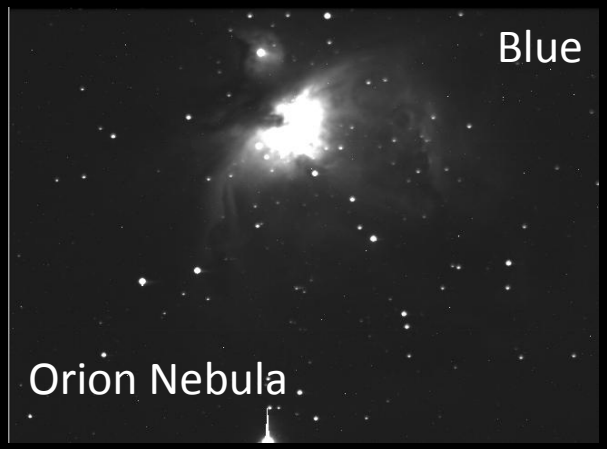

Red
Lagoon Nebula

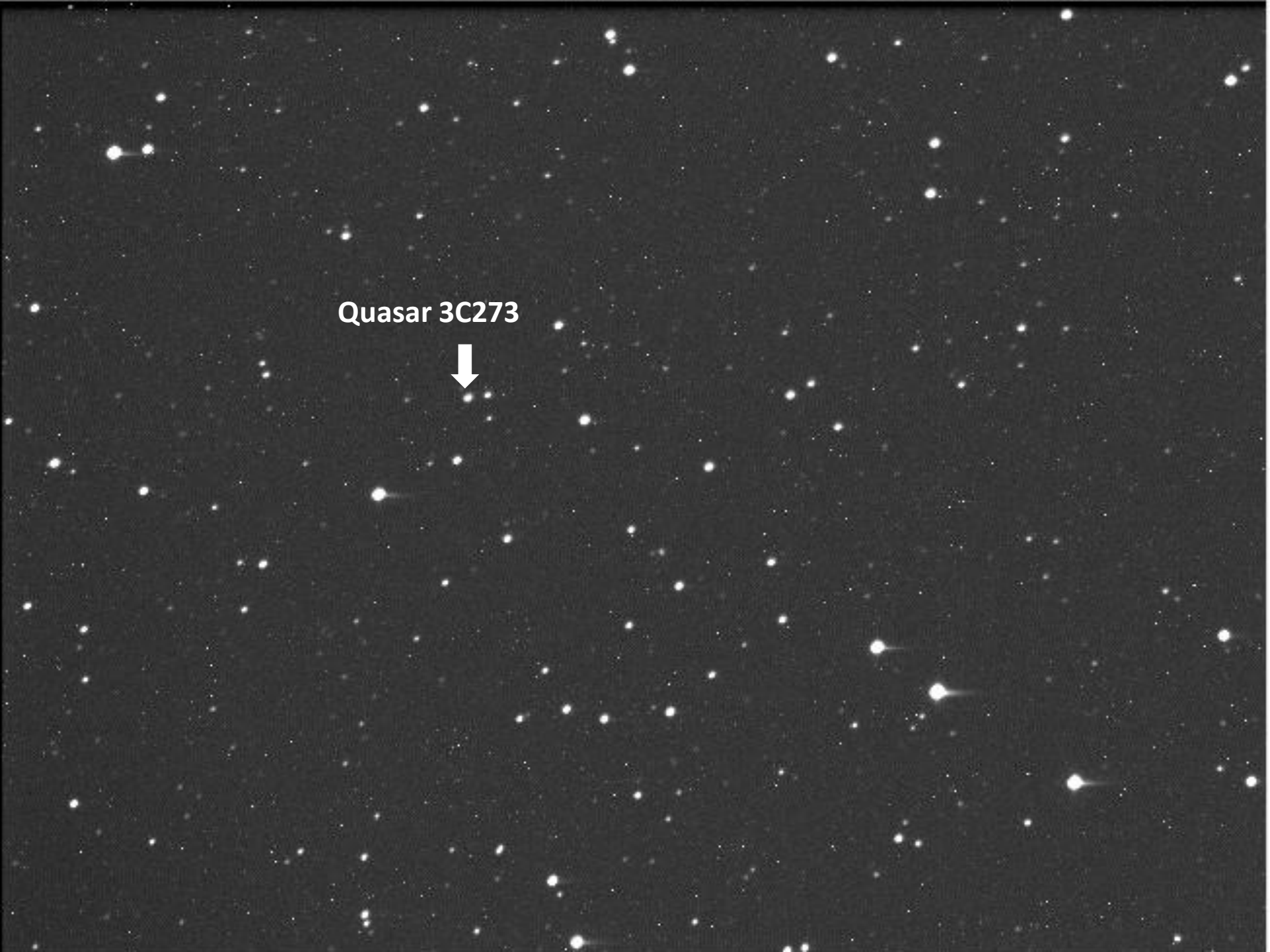

Green
Lagoon Nebula


Blue
Lagoon Nebula


Red
Orion Nebula


Green
Orion Nebula

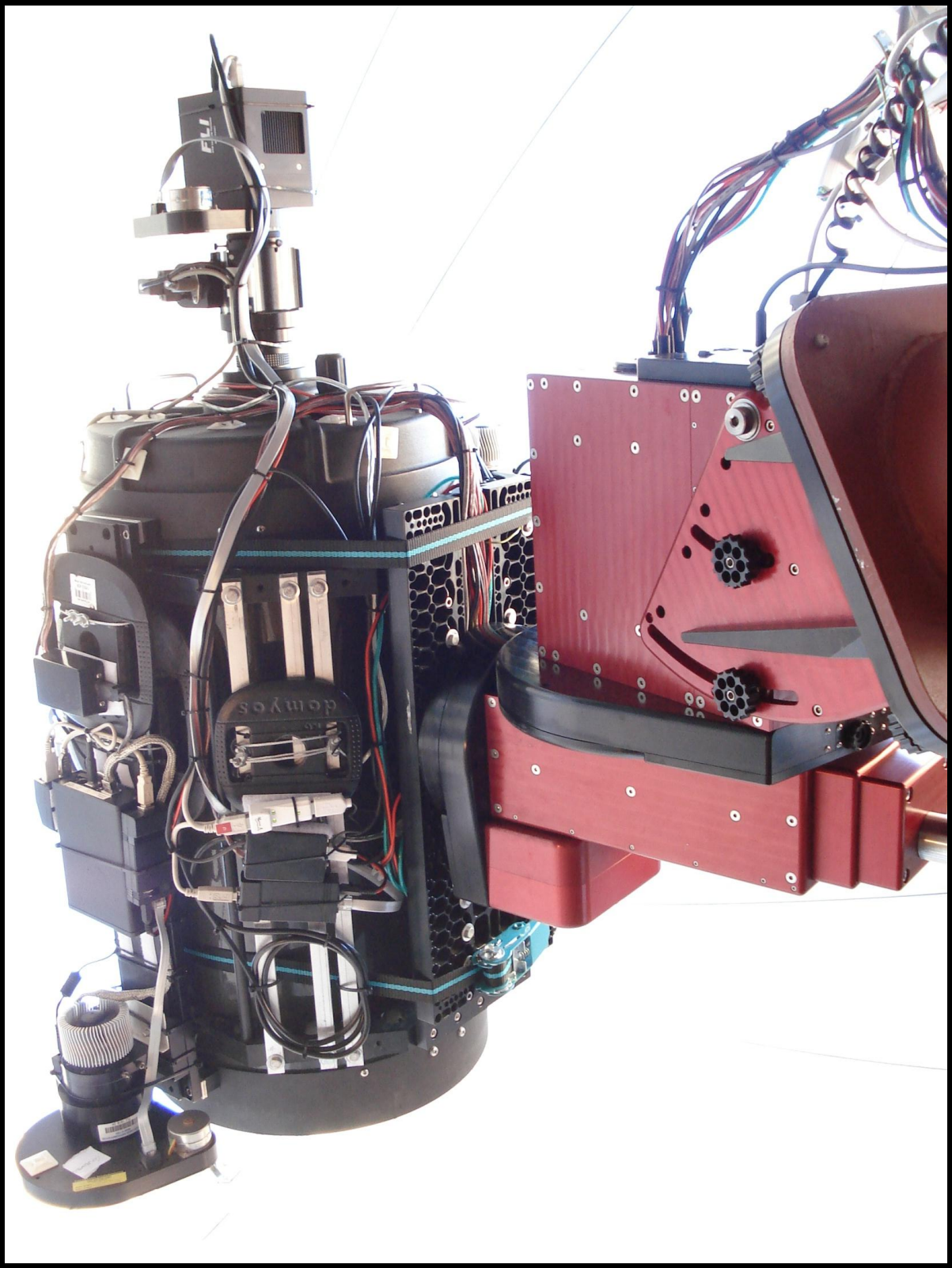

Blue
Orion Nebula

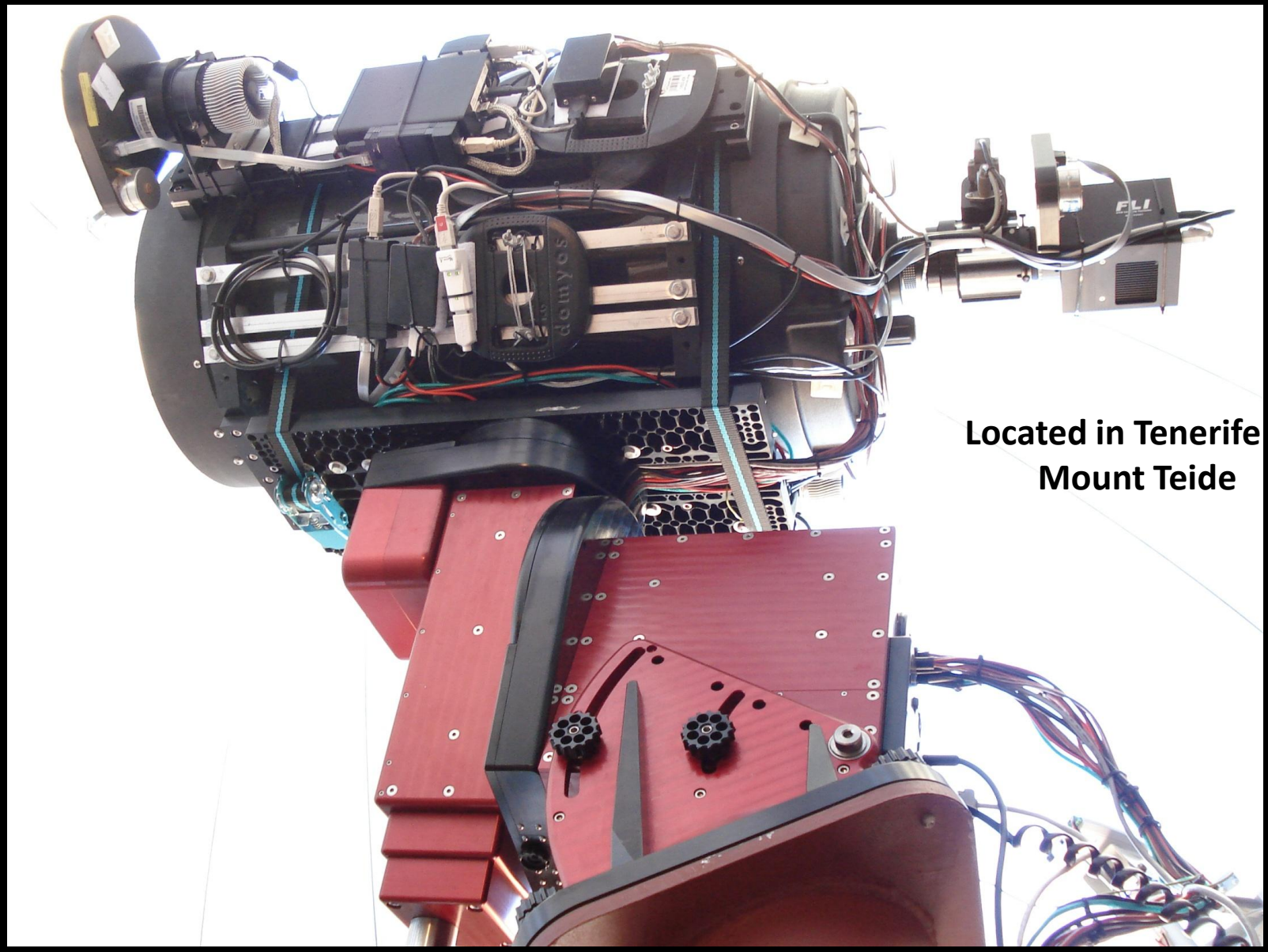

Quasar 3C273

# SYSTEM 2
# BRADFORD ROBOTIC TELESCOPE

Another remote site – you can go here

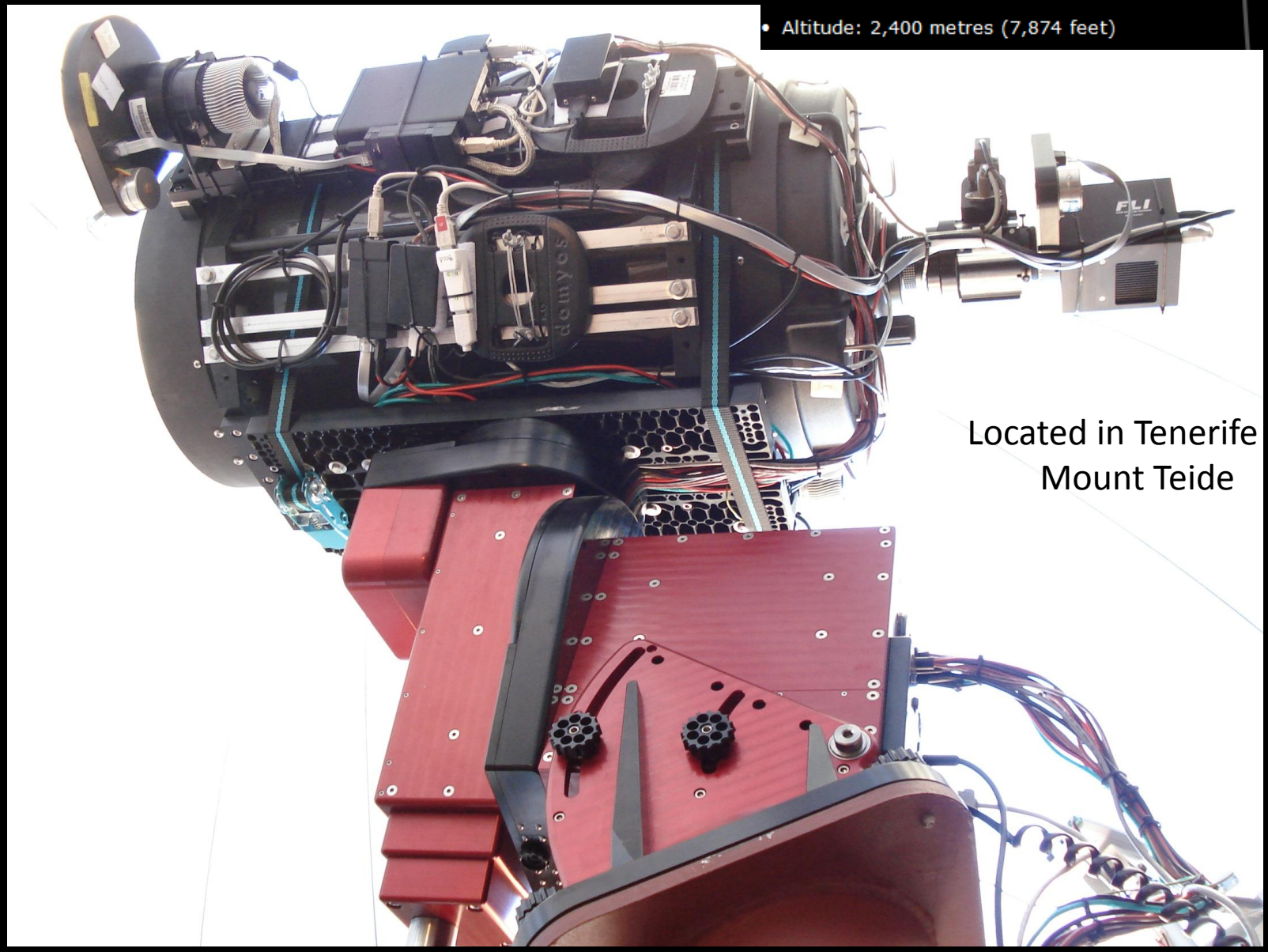

TENERIFE


domyos


Located in Tenerife
Mount Teide

## Tenerife Observatory Location

- Latitude: 28 degrees 17 minutes 54 seconds North
- Longitude: 16 degrees 30 minutes 34 seconds West
- Altitude: 2,400 metres (7,874 feet)




Located in Tenerife
Mount Teide

BRADFORD ROBOTIC TELESCOPE

search

## Bradford Robotic Telescope

The Bradford Robotic Telescope is a collection of telescopes and other instruments on Mount Teide, Tenerife. It is free to use for all, using this web site. For more information, click here.

Gallery Image

MESSIER 31, avg. rating 8.5

## Welcome

- Hello lenadam

Your Menu
Your Requests
Log out

LINK

**Please help by donating...**

**Click here to contribute**

UNIVERSITY OF BRADFORD
MAKING KNOWLEDGE WORK™

Explore space & play games with ...

# my.telescope.org

## Information

- News and Current Status - What's going on?
- First Contact! - See what you can see
- Reviews And Articles - What do *they* say?

## Tenerife Site

- Web cams
- Weather
- Real time data

Login

Username

Password

Login

Forgotten your details? Click here

Click here to register for a new account

Main Menu

Main page

System status

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Webcams

Statistics

Forums

Project news

Contact us

# Latest Tenerife Weather Information

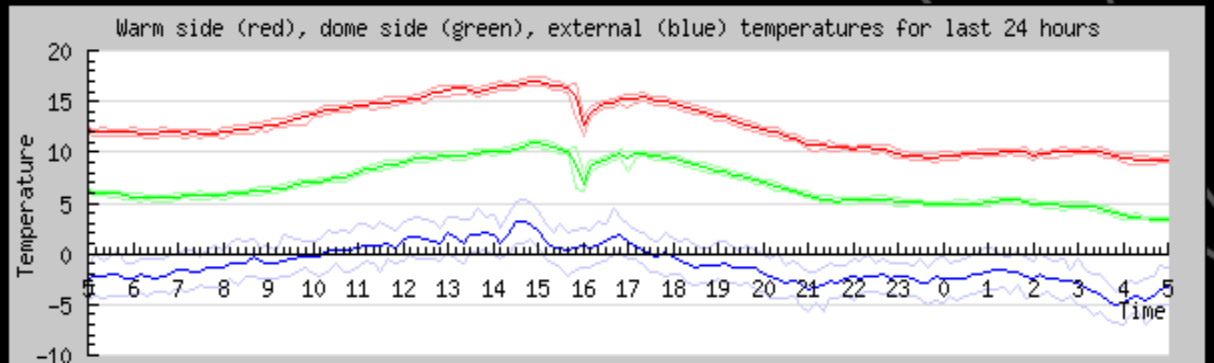
Other weather information at the same site: IAC GONG

Weather information as of: 03/04/12 05:10:00

| | | |
|---|---|---|
| Average wind speed | 58.83 | m/s (131.6 mph) |
| Wind direction | 356 | ° |
| Atmospheric pressure | 760 | mbar |
| External temperature | -3.43 | °C |
| Internal dome temperature | 3.48 | °C |
| Internal warm side temperature | 9.31 | °C |
| Raining | Yes | |
| External humidity | 84 | % |
| Internal humidity | 3 | % |
| Star Count | 0.183333 | stars |
| Star Area | 2.750000 | |
| Cloudy value | 0.916667 | |
| Dew | -0.949538 | volts |
| Solar radiation | -3 | watts/square metre |

As of 02/04/12 17:11:50 the Tenerife site reports the weather is bad for observing.

You can check the local weather



Welcome
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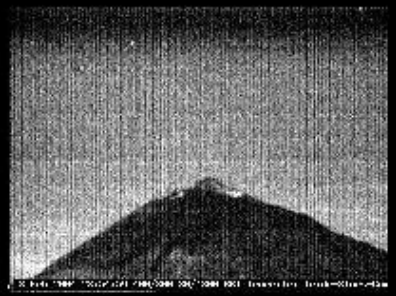
# Webcams

Select a camera from the ones listed below. Images are retrieved from the Tenerife site every 5 minutes. Click here for other projects' webcams at the Teide site.

Day cameras:Road-Cam | Teide-Cam | Dome-Cam | Pier-Cam | OGS-Cam
Night cameras:Pole-Star-Cam | Teide-Stars-Cam | Puerto-Cam
External cameras:Night-Sky-Cam | Observatory-Cam

Last night's time lapse videos from Teide and Pole star cameras (help with XviD videos):
Teide Stars:Flash video ~4MB | XviD ~1MB | Pole Star:Flash video ~5MB | XviD ~1MB



Back

BRADFORD ROBOTIC TELESCOPE

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Statistics
Forums
Project news

# Select a Messier Object

| Messier ID | Constellation | Description |
|---|---|---|
| 1 | Taurus | The Crab Nebula |
| 2 | Aquarius | |
| 3 | Canes Venatici | |
| 4 | Scorpius | |
| 5 | Serpens | |
| 6 | Scorpius | The Butterfly Cluster |
| 7 | Scorpius | Ptolemy's Cluster |
| 8 | Sagittarius | The Lagoon Nebula |
| 9 | Ophiuchus | |
| 10 | Ophiuchus | |
| 11 | Scutum | The Wild Duck Cluster |
| 12 | Ophiuchus | |
| 13 | Hercules | The Great Hercules Globula Cluster |
| 14 | Ophiuchus | |
| 15 | Pegasus | |
| 16 | Serpens | Part of the Eagle Nebula |
| 17 | Sagittarius | The Omega, Swan, or Horseshoe Nebula |
| 18 | Sagittarius | |

# Submit A Request To The Telescope

## Part 1 - What to observe

| | |
|---|---|
| Object Type | MESSIER |
| Object ID | 1 |
| Object Name | The Crab Nebula |

Change

## Part 2 - Telescope selection

| | |
|---|---|
| Telescope Type | Galaxy |
| Telescope ID | 2 |
| Telescope Name | Galaxy Camera |

Change

## Part 3 - Other information

| | |
|---|---|
| Filter selection | Colour image (BVR) |
| Exposure Time | 120000 ms |
| Dark Frame | Instant |
| Job comments | None |

Change

Submit Job

# Your request details:

| | |
|---|---|
| Object Type | MESSIER |
| Object ID | 1 |
| Object Name | The Crab Nebula |
| Exposure Time | 120000 |
| Observatory Selection | 2 |
| Telescope Type Selection | 2 |
| Telescope ID Selection | 2 |
| Filter Selection | BVR |
| Dark Frame Selection | Instant |
| Number of images | 1 |
| Interval between images | 0 |
| Comments | |
| Request Time | 03:47 on Monday 20 February 2012 |

Go to: Your menu | Your requests list | Submit a new request


NGC 891 USING THE BRADFORD ROBOTIC TELESCOPE

# SYSTEM 3
# SIERRA STARS OBSERVATORY NETWORK (SSON)

SSON

HOME/LOGIN | ABOUT SSON | OBSERVATORIES | GUIDES/VIDEOS

Click here to Register | Login

# Sierra Stars Observatory Network

## World Class Professional Automated Observatories

LINK

Sierra Stars Observatory Network (SSON) is a growing network of professional observatory partners working together to provide you with high-quality astronomical imaging for your projects and programs. By purchasing time on our network, you acquire access to remote telescopes around the globe with a variety of advanced imaging capabilities.

Outstanding service with the most cost effective method for aquiring high-quality astronomical images.

---


About SSON
High Quality Data and Service

SSO 0.61-meter Telescope
Markleeville, California

Rigel 0.37-meter Telescope
Sonoita, Arizona

Mt Lemmon 0.81-meter Telescope
Mt. Lemmon, Arizona


### High quality data guaranteed.

- You ***pay only for the actual exposure times*** of the images you schedule and receive.
- **Trial Rate for first-time users!** We offer a special one-time rate for new customers using SSON. ***For $50 you receive 83 credits*** -- more than a 40 percent discount below our base price.
- You are not charged extra for the time you are logged in or for any other use of our system.
- We currently have 3 telescopes in the network, with ***plans to add a telescope in South Africa, one in Turkey and another in the Virgin Islands.*** We'll keep you posted.
- Read More About SSON

Intro to SSON Video




Close

## Member Login

Username: lenadam

Password: ••••••••••••

Log In

## Not a member yet? Sign Up!

User Name:

Password:

Confirm Password:

E-mail:

Security Question:

Security Answer:

Create User

# Sierra Stars Observatory Network

## World Class Professional Automated Observatories

Sierra Stars Observatory Network (SSON) is a growing network of professional observatory partners working together to provide you with high-quality astronomical imaging for your projects and programs. By purchasing time on our network, you acquire access to remote telescopes around the globe with a variety of advanced imaging capabilities.


HOME/LOGIN ABOUT SSON OBSERVATORIES GUIDES/VIDEOS PURCHASE CREDITS SCHEDULE JOBS AFFILIATES/CREDITS

**Welcome** lenadam | Logout

# Observation Request Form

Use this form to set up your observing requests. Click on Steps 1 through Step 4 to complete the required information for an observing run. Click on the Help tab for additional information about each field in this form.

Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

**Title:** Supernova 2012aw

**Observer:** Len Adam

**Title:** -- This field is your title for your project. It can be anything you choose. For example "Asteroid Light Curve Lab Assignment" or "BVRI Photometry of Variable Stars". This is a required field.

**Observer:** -- This field is the name of the observer (or observers) for this project. This is a required field.




# Observation Request Form

Use this form to set up your observing requests. Click on Steps 1 through Step 4 to complete the required information for an observing run. Click on the Help tab for additional information about each field in this form.

Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

| | |
|---|---|
| **Choose an Object from Catalogs:** | Click the box below to select an item from a catalog. After selecting an object, you will automatically re-direct back to this page. **Click here to Select an Object from the Object Catalog Page** |
| **Object Name:** | |
| **Right Ascension: hh:mm:ss** | RA is not allowed if your object was chosen from the Moving Objects catalog. |
| **Declination: +/-dd:mm:ss** | DEC is not allowed if your object was chosen from the Moving Objects catalog. |
| **Epoch:** | The *Epoch* value is filled from the Object catalog for a stationary object. |

**Moving Objects Catalog** ○ **Stationary Objects Catalog** ○ **I entered my own coordinates** ◉

- If you select an object from the *Stationary Objects* catalog, the RA, DEC and EPOCH will be filled in for you.
- If you select an object from the *Moving Objects* catalog, the RA, DEC and EPOCH MUST be blank.
- If you enter your own custom object (moving or stationary), YOU MUST provide RA, DEC and EPOCH.


HOME/LOGIN ABOUT SSON OBSERVATORIES GUIDES/VIDEOS PURCHASE CREDITS SCHEDULE JOBS AFFILIATES/CREDITS

**Welcome** lenadam | Logout

# Stationary and Moving Objects Catalogs

| | |
|---|---|
| **Object Catalogs Available at Sierra Stars:** | Stationary Objects |
| **Select a Stationary Objects Catalog:** | Select Stationary Object Catalog |
| **Select Objects with Magnitude Between:** | 1 **and** 20 |
| **Select Objects with RA Hours Between:** | 0 **and** 23 Go |
| **Enter Object Name Search Criteria:** | Go |
| **Select a Page size:** | 50 |
| **Total Objects Retrieved:** | 0 Objects |

There are no objects that meet the selected criteria.




# Stationary and Moving Objects Catalogs

| | |
|---|---|
| **Object Catalogs Available at Sierra Stars:** | Stationary Objects |
| **Select a Stationary Objects Catalog:** | Messier Objects Catalog -- 110 Records. |
| **Select Objects with Magnitude Between:** | 1 and 20 |
| **Select Objects with RA Hours Between:** | 0 and 23 Go |
| **Enter Object Name Search Criteria:** | Go |
| **Select a Page size:** | 50 |
| **Total Objects Retrieved:** | 50 Objects |

| | Object Name | RA | DEC | Magnitude | Epoch |
|---|---|---|---|---|---|
| Select | M1 | 5:34:31.9 | 22:0:52 | 8.4 | 2000 |
| Select | M2 | 21:33:27.2 | -0:49:22 | 6.6 | 2000 |
| Select | M3 | 13:42:11.2 | 28:22:34 | 6.3 | 2000 |
| Select | M4 | 16:23:35.5 | -26:31:29 | 5.4 | 2000 |
| Select | M5 | 15:18:33.8 | 2:5:0 | 5.7 | 2000 |
| Select | M6 | 17:40:20 | -32:15:0 | 4.2 | 2000 |
| Select | M7 | 17:53:50 | -34:47:36 | 3.3 | 2000 |

| | | | | | |
|---|---|---|---|---|---|
| Select | M78 | 5:46:45 | 0:4:48 | 8 | 2000 |
| Select | M79 | 5:24:10.6 | -24:31:25 | 7.7 | 2000 |
| Select | M80 | 16:17:2.5 | -22:58:28 | 7.3 | 2000 |
| Select | M81 | 9:55:33.5 | 69:4:2 | 7 | 2000 |
| Select | M82 | 9:55:54 | 69:40:59 | 8.6 | 2000 |
| Select | M83 | 13:37:0.2 | -29:52:2 | 7.5 | 2000 |
| Select | M84 | 12:25:3.6 | 12:53:13 | 9.2 | 2000 |
| Select | M85 | 12:25:23.9 | 18:11:27 | 9.1 | 2000 |
| Select | M86 | 12:26:11.5 | 12:56:47 | 8.9 | 2000 |
| Select | M87 | 12:30:49.4 | 12:23:26 | 8.6 | 2000 |
| Select | M88 | 12:31:59 | 14:25:11 | 9.4 | 2000 |
| Select | M89 | 12:35:39.9 | 12:33:22 | 9.9 | 2000 |
| Select | M90 | 12:36:50 | 13:9:50 | 9.4 | 2000 |
| Select | M91 | 12:35:26.4 | 14:29:47 | 10.1 | 2000 |
| Select | M92 | 17:17:7.3 | 43:8:13 | 6.5 | 2000 |
| Select | M93 | 7:44:30 | -23:51:24 | 6.2 | 2000 |
| Select | M94 | 12:50:53.1 | 41:7:17 | 8.1 | 2000 |
| Select | M95 | 10:43:57.8 | 11:42:12 | 9.8 | 2000 |
| Select | M96 | 10:46:45.8 | 11:49:12 | 9.3 | 2000 |
| Select | M97 | 11:14:47.7 | 55:1:10 | 9.9 | 2000 |
| Select | M98 | 12:13:47.8 | 14:53:58 | 10.1 | 2000 |
| Select | M99 | 12:18:49.3 | 14:25:3 | 9.7 | 2000 |
| Select | M100 | 12:22:54.9 | 15:49:22 | 9.3 | 2000 |

# Observation Request Form

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Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

| | |
|---|---|
| **Choose an Object from Catalogs:** | Click the box below to select an item from a catalog. After selecting an object, you will automatically re-direct back to this page. **Click here to Select an Object from the Object Catalog Page** |
| **Object Name:** | M95 |
| **Right Ascension: hh:mm:ss** | 10:43:57.8 RA is not allowed if your object was chosen from the Moving Objects catalog. |
| **Declination: +/-dd:mm:ss** | 11:42:12 DEC is not allowed if your object was chosen from the Moving Objects catalog. |
| **Epoch:** | 2000 The *Epoch* value is filled from the Object catalog for a stationary object. |

**Moving Objects Catalog** ○ **Stationary Objects Catalog** ◉ **I entered my own coordinates** ○

- If you select an object from the *Stationary Objects* catalog, the RA, DEC and EPOCH will be filled in for you.
- If you select an object from the *Moving Objects* catalog, the RA, DEC and EPOCH MUST be blank.
- If you enter your own custom object (moving or stationary), YOU MUST provide RA, DEC and EPOCH.

# Observation Request Form

Use this form to set up your observing requests. Click on Steps 1 through Step 4 to complete the required information for an observing run. Click on the Help tab for additional information about each field in this form.

Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

**The values in this section are not required.** ***If you choose to enter a UTC date, make sure the UTC date is for the upcoming night's observing run at SSO***. If you use a UTC date and SSON cannot run your job on the selected UTC date, your job will be cancelled and your credits returned. The Sierra Stars Observatory Telescope is located in Pacific Standard Time. The current date and time at Sierra Stars observatory is: **3/20/2012 12:00:51 AM**. The current UTC date and time are: **3/20/2012 7:00:51 AM**. If you plan to request a specific Local Sidereal Time (LST) for one of the SSON telescopes, you can use the following LST calculators to determine the appropriate time settings.

**Open calculators**

**If you choose not to enter a UTC date and time below, your job will run at the next available opportunity.**

| | |
|---|---|
| **UTC Date(mm/dd/yyyy):**<br>If you want your job to run at the next available date, ***leave the UTC Date field blank***. | |
| **Start Time:**<br>DO NOT FILL in the start-time box value unless you require a specific time for your exposure ***the scheduling program will determmine the optimum time.*** | 00:00:00 Local Sidereal Time |

# Observation Request Form

Use this form to set up your observing requests. Click on Steps 1 through Step 4 to complete the required information for an observing run. Click on the Help tab for additional information about each field in this form.

Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

**Close calculators**

## Instructions:

- Click the -Update Local Time- button to update the current local time for the selected observatory.
- The time format is in decimal fractions of an hour (for example, for 12:30 you enter 12.5).

**Sierra Stars Observatory LST calculator**

**Rigel-Winer Observatory LST calculator**

**Mt. Lemmon Sky Center LST calculator**

**If you choose not to enter a UTC date and time below, your job will run at the next available opportunity.**

| | |
|---|---|
| **UTC Date(mm/dd/yyyy):**<br>If you want your job to run at the next available date, ***leave the UTC Date field blank***. | |
| **Start Time:** | 00:00:00 Local Sidereal Time |

# Observation Request Form

Use this form to set up your observing requests. Click on Steps 1 through Step 4 to complete the required information for an observing run. Click on the Help tab for additional information about each field in this form.

Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

**Select a telescope for this observing run:** Sierra Stars Observatory

***The TGS 300-line and 600-line spectroscopy filters on Rigel will be available after the software development needed to increase the precision to position on the slit on objects in automated mode is completed. We will let everyone know right away when it is ready.***

---

Jobs submitted before 4:50pm on MLSC, or 3:50 on Rigel should run that night if weather and schedules permit. The SSO telescope typically creates schedules at 5pm or later depending on astronomical twilight.
**You can set exposure times up to 300 seconds**. To increase exposure duration, you must take additional exposures and stack them. You can use the *Number of times to run this series* and *Time delay between series* fields below to accomplish this.

**Enter the exposure time *in seconds* for each filter**

| Filter Name | Filter Code | Duration |
|---|---|---|
| Blue | B | |
| Clear | C | |
| Infrared | I | |
| Red | R | |
| Visual | V | |

**Number of times to run this series:** 1
**Time Delay between Series:** 00:00:30

# Observation Request Form

Use this form to set up your observing requests. Click on Steps 1 through Step 4 to complete the required information for an observing run. Click on the Help tab for additional information about each field in this form.

Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

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**You can set exposure times up to 300 seconds**. To increase exposure duration, you must take additional exposures and stack them. You can use the *Number of times to run this series* and *Time delay between series* fields below to accomplish this.

**Enter the exposure time *in seconds* for each filter**

| Filter Name | Filter Code | Duration |
|---|---|---|
| Blue | B | |
| Clear | C | 120 |
| Infrared | I | |
| Red | R | |
| Visual | V | |

**Number of times to run this series:** 1
**Time Delay between Series:** 00:00:30

# Observation Request Form

Use this form to set up your observing requests. Click on Steps 1 through Step 4 to complete the required information for an observing run. Click on the Help tab for additional information about each field in this form.

Title (Step 1) | Object (Step 2) | Date/Time(Optional) | Telescope/Filters (Step 3) | Submit (Step 4) | Help

**Select a payment event code. If you have only one event code then that will be preselected for you. Click on the *Calculate Total Time* button below to verify that you have a valid job, then click on *Sumit Schedule* to enter your job into the master schedule..** Selected choice shown in color below. Defaults to most recent payment.

| Select | Event Code | Credits Issued | Credits Used |
|---|---|---|---|
| Select | Payment of $50.00 on 1/8/2012 | 51 | 20.0 |

**Success!**
**Total time: 120 seconds.**
**Total time charged: 2 minutes.**
**Total images: 1**
**Each image of 30 seconds or less is charged at the rate 30 seconds.**

Check the box if you want this job sent to the AAVSO VPHOT program. ☐
VPHOT Username:

What is VPHOT?

(Have you completed all of the required information from the Project, Object and Telescope/Filters tabs?)

Calculate Total Time | Submit Schedule | Run another job | View Job List




# List of the Jobs you have Scheduled

**User:** Len Adam **Telescope:** All telescopes

Below is a list of any jobs you have generated for SSON telescopes.

**When can I delete jobs:**

- You can delete SSO jobs between 10:00AM and 5:00PM Pacific Standard Time (PST).
- You can delete Rigel jobs between 10:00AM and 3:00PM Pacific Standard Time (PST).
- You can delete MLSC jobs between 1:00PM and 4:00PM Pacific Standard Time (PST).

The current PST time is: **12:13 AM**.

The current UTC date and time are: **3/20/2012 7:13:30 AM**.

If you choose to reload a job, you will be directed to the ***Observation Request Form*** with the selected job's information. You will not be charged for the job until you press **Submit Schedule** on the ***Observation Request Form***.

**Jobs Scheduled**

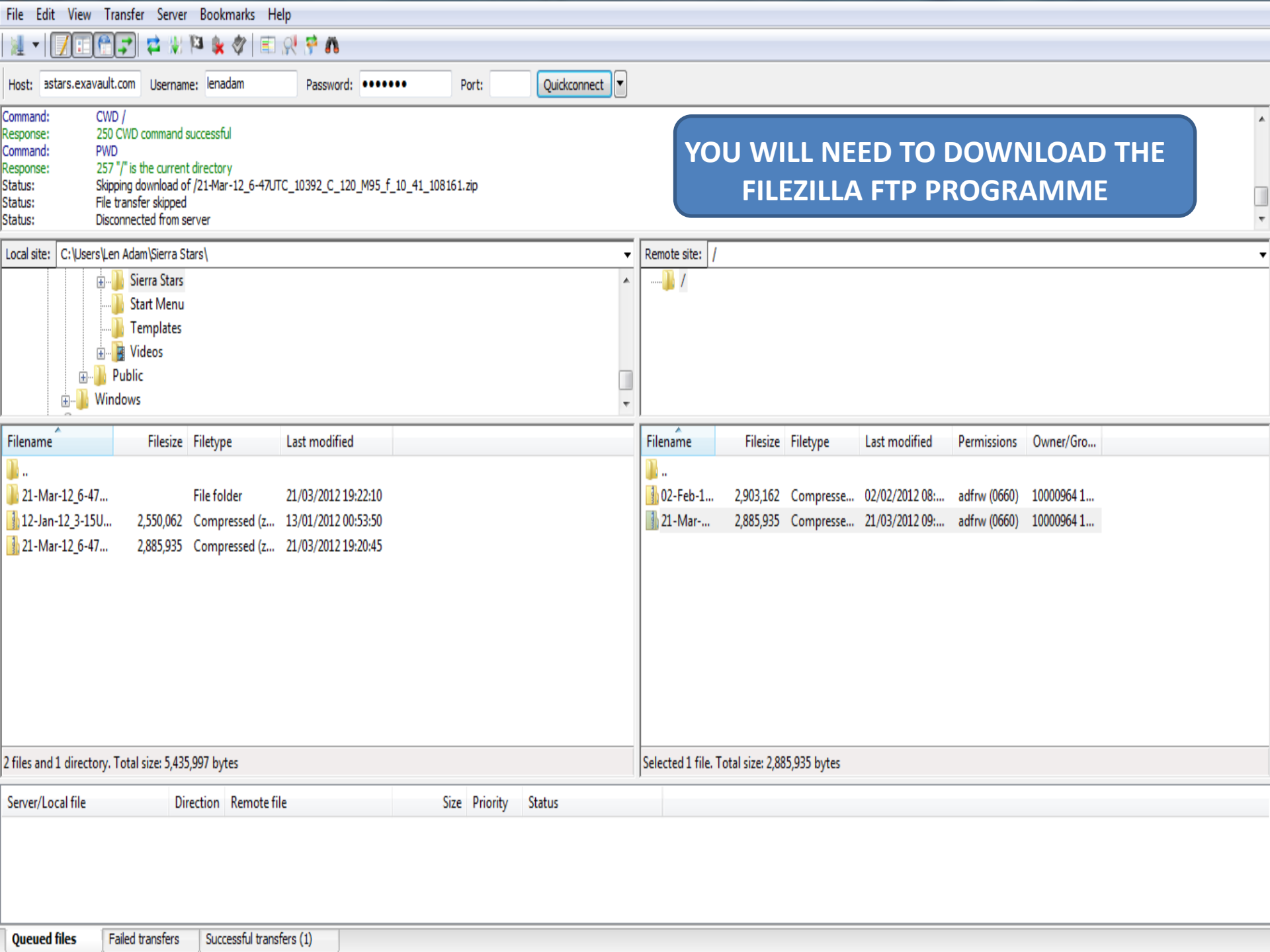
| | | Job ID | Job Title | Object | Date Scheduled | Duration String | Filter String | EPOCH | Tele-Scope |
|---|---|---|---|---|---|---|---|---|---|
| ReRun | Delete | 10392 | Supernova 2012aw | M95 | 3/20/2012 | 120 | C | 2000 | 1 |

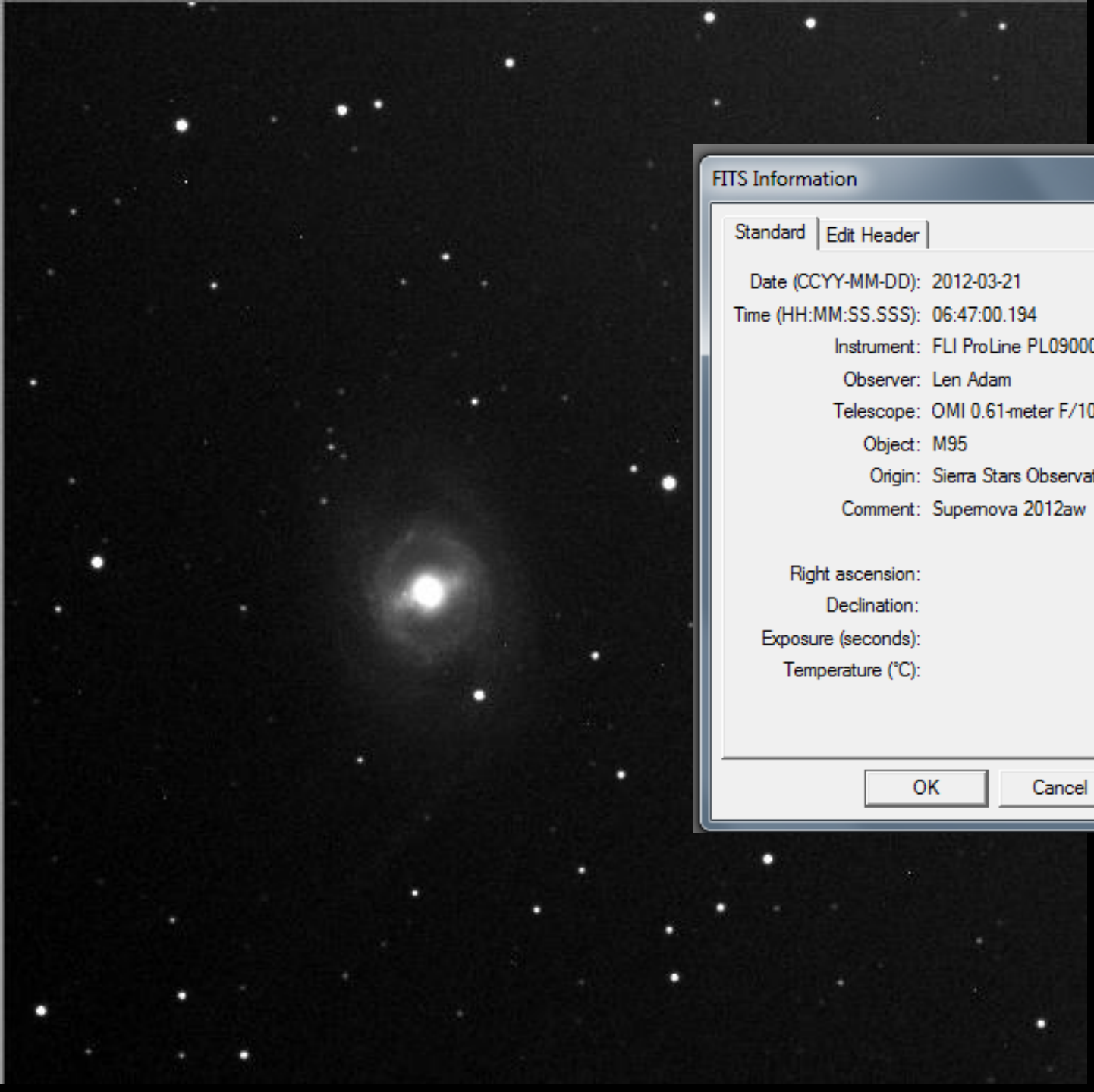
SSON Job scheduled on Telescope 1: M95 Inbox x

**admin@sierrastars.com**

to me

**User:** lenadam
**Job ID:** 10392
**Title:** Supernova 2012aw
**Observers:** Len Adam
**Object Name:** M95
**Ra/Dec:** 10:43:57.8 / 11:42:12
**Catalog:** Stationary Objects Catalog
**Filters:** C
**Duration:** 120
**Time to repeat series:** 1
**Total Images:** 1
**Telescope:** 1


File Edit View Transfer Server Bookmarks Help
Host: astars.exavault.com Username: lenadam Password: ••••••• Port: Quickconnect
Command: CWD /
Response: 250 CWD command successful
Command: PWD
Response: 257 "/" is the current directory
Status: Skipping download of /21-Mar-12_6-47UTC_10392_C_120_M95_f_10_41_108161.zip
Status: File transfer skipped
Status: Disconnected from server
YOU WILL NEED TO DOWNLOAD THE FILEZILLA FTP PROGRAMME
Local site: C:\Users\Len Adam\Sierra Stars\
Sierra Stars
Start Menu
Templates
Videos
Public
Windows
Remote site: /
/
Filename Filesize Filetype Last modified
.. 21-Mar-12_6-47... File folder 21/03/2012 19:22:10
12-Jan-12_3-15U... 2,550,062 Compressed (z... 13/01/2012 00:53:50
21-Mar-12_6-47... 2,885,935 Compressed (z... 21/03/2012 19:20:45
2 files and 1 directory. Total size: 5,435,997 bytes
Filename Filesize Filetype Last modified Permissions Owner/Gro...
.. 02-Feb-1... 2,903,162 Compresse... 02/02/2012 08:... adfrw (0660) 10000964 1...
21-Mar-... 2,885,935 Compresse... 21/03/2012 09:... adfrw (0660) 10000964 1...
Selected 1 file. Total size: 2,885,935 bytes
Server/Local file Direction Remote file Size Priority Status
Queued files Failed transfers Successful transfers (1)



FITS Information

Standard | Edit Header

| | |
|---|---|
| Date (CCYY-MM-DD): | 2012-03-21 |
| Time (HH:MM:SS.SSS): | 06:47:00.194 |
| Instrument: | FLI ProLine PL09000 Rev 1.01 |
| Observer: | Len Adam |
| Telescope: | OMI 0.61-meter F/10 Cassegrain |
| Object: | M95 |
| Origin: | Sierra Stars Observatory |
| Comment: | Supernova 2012aw |

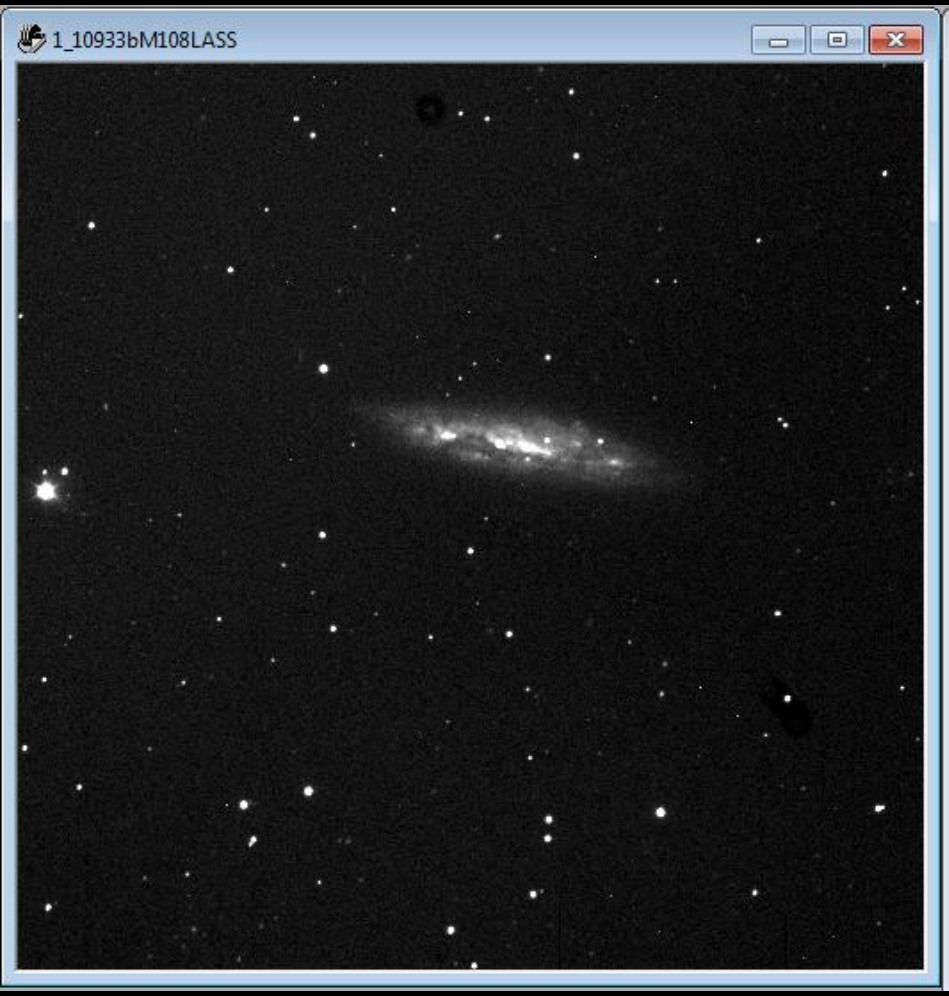
| | | | |
|---|---|---|---|
| Right ascension: | | Width (pixels): | 1528 |
| Declination: | | Height (pixels): | 1528 |
| Exposure (seconds): | | Bits per pixel: | 16 |
| Temperature (°C): | | | |

OK | Cancel | Apply | Help

ON 21ST March I found  a suspicious object near M108 and requested an image from Sierra Stars

Len Adam 2nd April 2012
0.61m Sierra Stars California

Len Adam 22nd March 2012
Celestron 14 Spain




# British Astronomical Association

## Instruments and Imaging Section


The Instruments and Imaging Section was inaugurated in 1995, and is the latest of a sequence of Sections – extending for almost a century – intended to keep pace with the practical and technological aspects of astronomy. The Section incorporates observing techniques, telescope making, photography, imaging, photometry, astrometry, spectroscopy, optics, engineering, electronics, and associated and peripheral fields. It serves to disseminate the results of observations, research and experiments, and also acts as a vehicle for those wishing to seek or administer advice. The meetings deal with a wide range of subjects, and are also social events which present opportunities for conversation and discussion. There is no formal membership of the Section, and anyone who wishes to participate or contribute will be welcomed.

*E-mail* : ram@hamal.demon.co.uk

Instruments | Main Page | Articles / Images
Meetings | Robotic Telescope Project | Literature

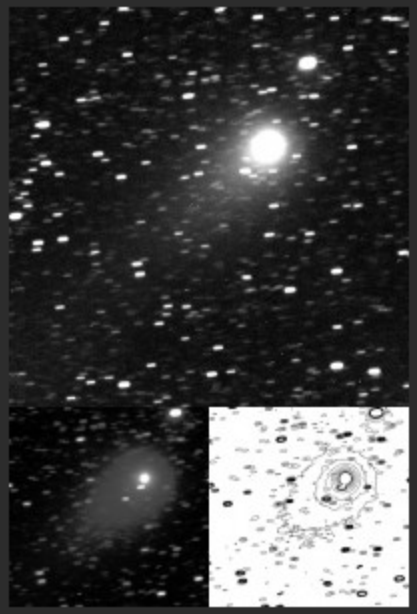
Visitor 25862 309 pages

es Latest u

20 February 2012

# The BAA Remote Telescope Project and SSON

*By Rich Williams*



— Comet Garradd -- Peter Meadows -- Data from SSON

The British Astronomical Association (BAA) established the Remote Telescope Project to enable its members to use remote observatory facilities for projects. Members can apply for telescope time and the BAA will pay for half the cost up to a limit. Individuals can run their own education and research projects or groups of members work on collaborative projects. The BAA started using SSON for the Remote Telescope Project in April of 2009 when Peter Meadows, the Remote Telescope Coordinator of the BAA, first tested SSON to see how it would work for their purposes. Since then they use SSON as the sole remote provider for the project.

The Remote Telescope Project supports several ongoing astronomy projects. Here is the current list I copied from their web site:

- **BAA Variable Nebulae Survey** – to establish the variability of these objects in terms of identifying the specific parts of the nebula varying, the frequency with which they change and the variation in brightness encountered. Objects include Gyulbudaghians nebula, NGC 2261 (Hubble's Variable Nebula) & NGC 6729.
- **Investigation on the variability of Gyulbudaghian Nebula** – to study the variability of the Gyulbudaghian Nebula and the possible correlation with the variability of PV Cephei both in time and in magnitude variation for at least one year.
- **Comet photometry and astrometry** – to use the methodology as developed by a group of Spanish amateur astronomers to determine the magnitudes of comets selected, mainly, from the list 'Comets reaching perihelion in 2010' published in the 2009 December issue of the Journal of the British astronomical Association. Includes Comet C/2010 X1 (Elenin).
- **Confirmation of Supernovae** – to acquire images of newly discovered supernovae especially if there are problems acquiring confirmation imagery within the UK.
- **Photometry of novae and supernovae** – this is to extend the study of the decline of these objects as this late part of the light curves has not been studied extensively. In the case of supernovae the disparity with SN Ia in establishing distances and absolute magnitudes appears to be linked to the rate of decline and light curve shape.
- **BAA Discovery Suspects** – confirmation of suspects/potential discoveries from BAA members and other groups in need of immediate investigation (many are not easy to resolve without deep imaging such as available with the SSON 0.61-m telescope).

- **The Recovery of Wayward Asteroids** – if an asteroid has only been observed at a small number of oppositions (say 2) and has not been observed for a number of years, it is likely that its current location will not be known accurately. The purpose of the project is for the support observations of asteroids with large positional uncertainties that have not been observed for a number of years.

— WZ Sge-type Object in Pegasus -- Guy Hurst -- Data from SSON

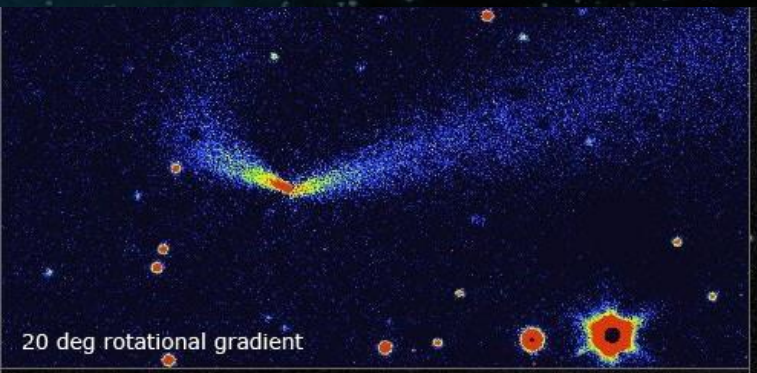
One of the regular users of the Remote Telescope Project, Roger Dymock, wrote an excellent article, Dust to Dust — Comet C/2010 X1 (Elenin), for my blog in November 2011 about using SSON for his project. The Remote Telescope Project web page highlights some of the project results by other members as well including Peter Meadows, Guy Hurst, Nick James, Mike Foyland, and Grant Privett. Their results using SSON are published in the Journal of the BAA and in the various section newsletters.

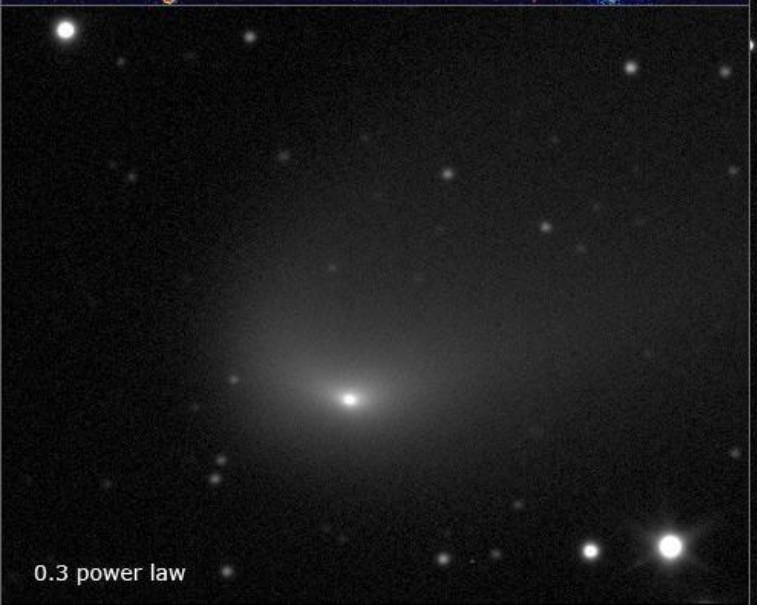
BAA ROBOTIC TELESCOPE PROJECT

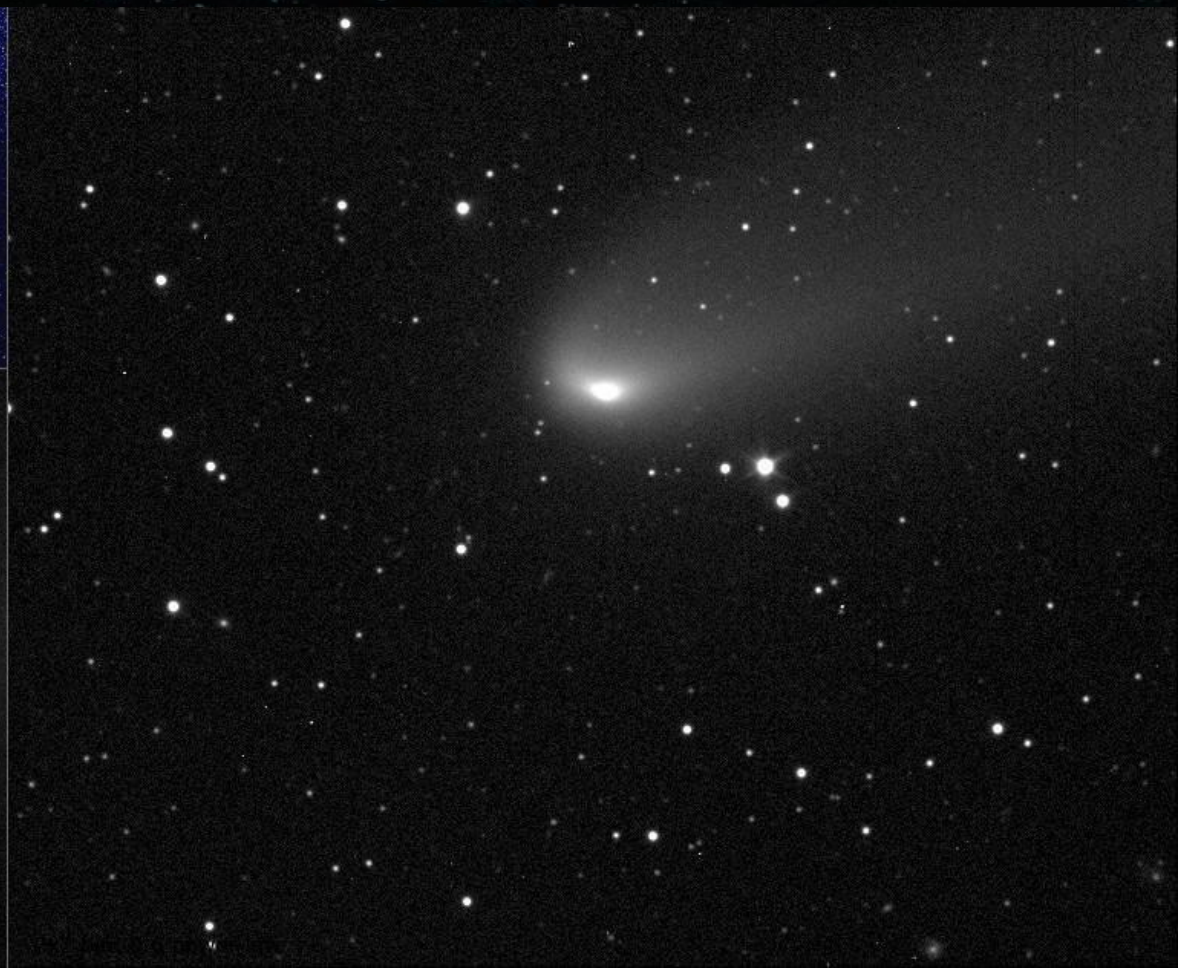
# Comet 81P/Wild

**Nick James**

2010 March 11, 10:52 UTC. 50 s unfiltered exposure with Sierra Stars 61-cm f/10 Cassegrain. Field of view of main image, 20'.4 x 20'.4.



SYSTEM
i-Telescope.net
Formerly Global Rent-a-Scope
(GRAS)

itelescope.net

LINK

*Advancing Your Horizons in Astronomy*

## iTelescope News & Updates

Upgrade your OLD GRAS Account to iTelescope.Net
iTelescope Australia Project - Updates
iTelescope Announces New Telescopes Coming Online in 2012
NEW Telescope Rates and Discounts
Member's Forum and Knowledge Base!

SKY ALERTS: Latest Updates! NEOs, Asteroids, Supernovae & Comets

*We Strongly Suggest Firefox Internet Browser for iTelescope Services


Try it for **Free!**

iTelescope.Net is the world's premier network of Internet connected telescopes, allowing members to take astronomical images of the night sky for the purposes of education, scientific research and astrophotography. (more)

## Astronomy Research

Having access to professional telescopes means that doing real science has never been easier – great value for schools, educators, universities, amateur and professional astronomers. (more)

## Education and Astronomy Schools

With science and numeracy at the forefront of the education revolution, iTelescope.Net provides the tools, along with research and education grants, to support the development of astronomy or science based curriculums in schools. Contact iTelescope.Net about a grant for your school or research project. (more)

## Astrophotography

Take stunning images of the night sky, galaxies, comets

itelescope.net

*Advancing Your Horizons in Astronomy*

## Telescope - Observatory Data

**Spain (MPC Code I89) : Australia (MPC Code - E03) : Nth America (MPC Code - H06)**



**iTelescope.net** currently has 12 remote telescopes on its network. Some systems are specialist while others are multi-purpose platforms. Dependant mostly on the filters and the CCD cameras installed.

(Telescopes T8 T13 & T30 are in storage until installation into iTelescope's new **Siding Spring** Observatory 2012)

**See Telescope Specs:**

**New Mexico:** T3 - T4 - T5 - T11 - T14 - T20 - T21

**Spain:** T7 - T16 - T17 - T18

**Australia:** T8 - T9 - T12 - T13 - T30



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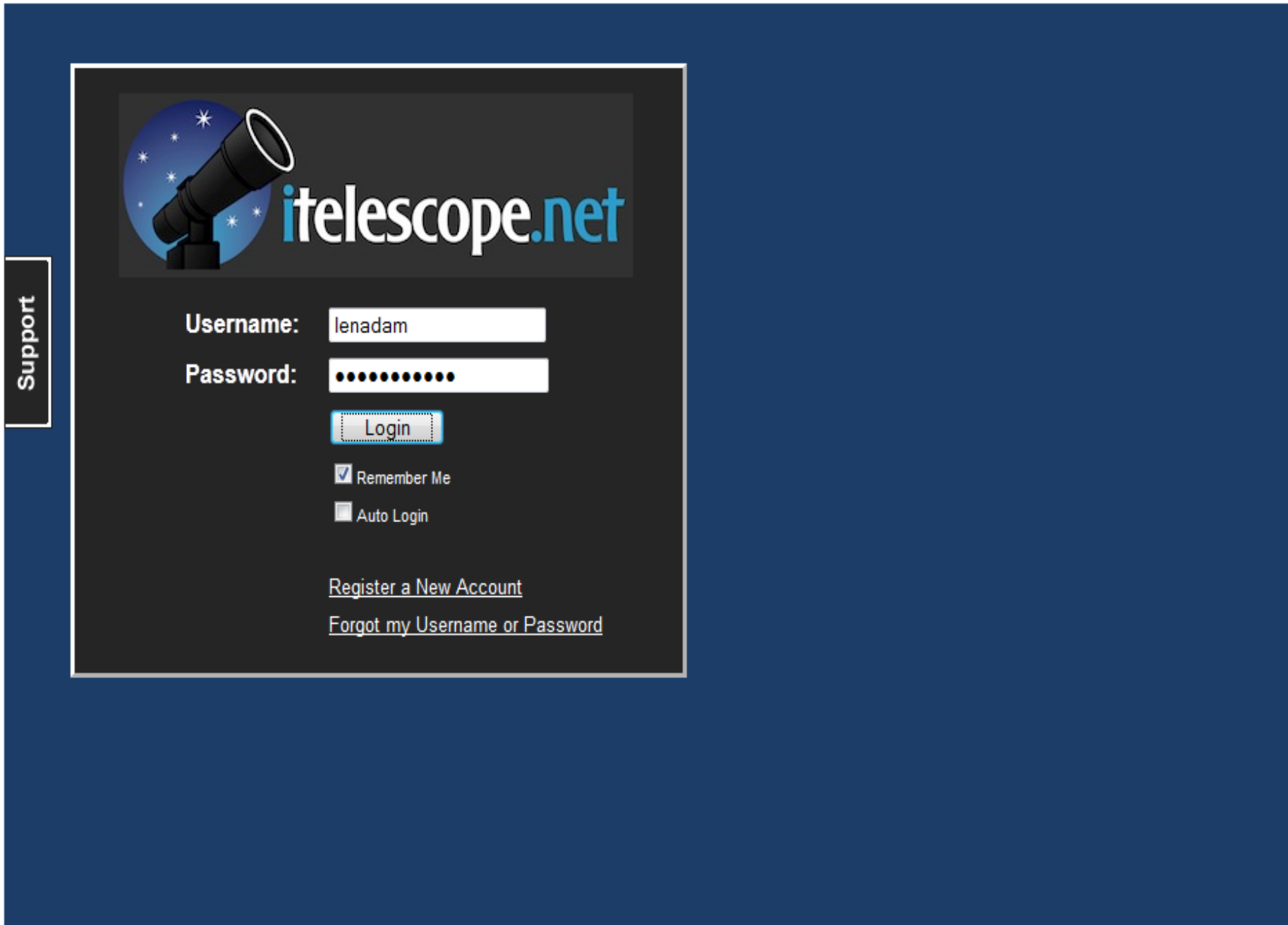
Take stunning images of the night sky, galaxies, comets


Support
itelescope.net
Username:
lenadam
Password:
Login
Remember Me
Auto Login
Register a New Account
Forgot my Username or Password

Advancing your Horizons in Astronomy ... No Network Messages

Select Action: | Reservations | Offline Plan Generator

Weather Infomation
New Mexico, USA
Spain
Australia

Other Links
iTelescope.Net Website
Video Tutorials
Newsletter Subscription

Plans and Services
Membership Plans
Buy Extra Points

**Northern Hemisphere**

**Mayhill, New Mexico, USA**

T3: Roof Closed
T4: Roof Closed
T5: Roof Closed
T11: Roof Closed
T14: Roof Closed
T20: Roof Closed
T21: Coming Feb-Mar 2012

**Nerpio, Spain**

T7: Offline
T16: Offline
T17: Offline
T18: Coming Jan-Feb 2012

**Southern Hemisphere**

**Officer, AU (moving to SSO)**

T9: Offline
T12: Closed: Day Time

**Siding Spring Observatory, AU**

T8: Coming Mar-Apr 2012
T13: Coming Mar-Apr 2012
T30: Coming Mar-Apr 2012

iTelescope.Net Tweets

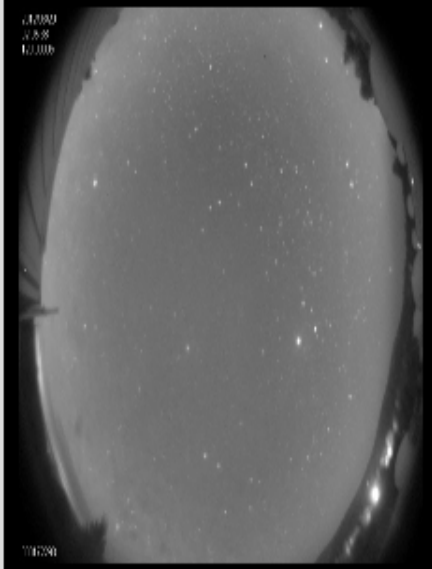
iTelescope Spain, Domes Open to Clear Skies. Moderate Winds. 5-10kph. http://t.co/JJVd1nQV
1 day ago

iTelescope New Mexico: Domes Open to Clear Skies. http://t.co/SECYJv9b
2 days ago

iTelescope Spain. Domes Open to Mostly Clear Skies. Moderate Winds. http://t.co/JJVd1nQV
2 days ago

iTelescope New Mexico: Domes Open tonight to Clear Skies. Light Winds. http://t.co/SECYJv9b
3 days ago

User: lenadam Points: 40 Membership: Demo (354 days) Group: None VPhot: No Reservations: No Launch-a-Plan: No Private FTP: No



All Sky Camera

Not Active

Buy Extra Points

View Plans

## System Alerts and Operational Notices

### General Support


Email: support@itelescope.net

Phone: +714 916 5789

Skype: skype:brad.moore.astro

Support Website: support.itelescope.net

Cell Phone (24x7): +61 438 909 127


**All Sky Cam: New Mexico, USA**

MOON Alt: -43 Ill: 5% Sun: -54

2:14 AM, Mar 20, 2012 (UTC -6)

Sunset: 7:14 PM Sunrise: 7:05 AM

**All Sky Cam: Officer, Australia**

MOON Alt: -15 Ill: 5% Sun: 3

7:14 PM, Mar 20, 2012 (UTC 11)

Sunset: 7:29 PM Sunrise: 7:21 AM

**All Sky Cam: Nerpio, Spain**

MOON Alt: -27 Ill: 6% Sun: -41

9:14 AM, Mar 20, 2012 (UTC 1)

Sunset: 7:21 PM Sunrise: 7:12 AM

### Live Telescope Rates (Points per Imaging Hour)

| | New Mexico | | | | | | | Australia | | | | | Spain | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | T3 | T4 | T5 | T11 | T14 | T20 | T21 | T8 | T9 | T12 | T13 | T30 | T7 | T16 | T17 | T18 | Plan |
| Plan-90 | 46 | 46 | 46 | 157 | 56 | 48 | 129 | 94 | 101 | 67 | 58 | 182 | 114 | 72 | 78 | 81 | Upgrade |
| Demo-Upgrade | 43 | 42 | N/A | N/A | N/A | 43 | N/A | N/A | 84 | N/A | N/A | N/A | 94 | 60 | N/A | N/A | Upgrade |
| Demo | 60 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Your Plan |

**Imaging**
Run Image Series
Run Scripted Plan
Acquire Comet/NEO

**Toolbox**
Plan Generator

Pending Reservations
Cal. (Dark/Bias)
Deep Sky Catalog
Welcome Page
AAVSO VPhot

**My Documents**
My Observing Plans
Run Logs
My Image Files

**Support**
Contact Support
Tutorials
FAQ

**Observatory**
View Observatory
Preview Last Image
All Sky Camera
Weather Data
Telescope Info

If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Expose 40 sec. | | Imaging | |
| UTC: | 07:34:02 | RA: | 11:24:35.24 | Filter | Color | Target | M108 |
| LST: | 12:48:33 | Dec: | 11°41'07.4" | Binning | 3:1 | | |
| Local: | 01:34:02 | Az: | 226.8° | Cooler | -20°C/64% | | |
| Date: | 26-03-12 | Alt: | 61.4° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.1 | Idle | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| *Hover mouse over links* | | | | | Ey: --.-- | | |

Current Running Script Output:

```
01:32:05 ; One Click Plan by Len Adam, created Mon, 26 Mar 2012 07:31:48
01:32:05 ;
01:32:05   === Imaging M108 (# 1 of 1 in set 1) ===
01:32:05   === Focusing on Initial Focus, filter Color ===
01:32:05   Slewing to Focus Star   RA: 11h 23m 55.0s DEC: 10° 31' 46" (J
01:32:05   Start slew to Focus Zone...
01:32:11   (wait for slew to complete)
01:32:27   (slew complete)
01:32:27   === Centering Focus Zone ===
01:32:27   Updating pointing...
01:32:28   (taking 20 sec. exposure, Color filter, binning = 3)
01:33:03   Plate-solve pointing image.
01:33:04   42 image stars found
01:33:04   Trying to plate solve last exposure...
01:33:06 *** Unable to find plate solve solution
01:33:06   Start slew to offset...
01:33:12   (wait for slew to complete)
01:33:23   (slew complete)
01:33:23   (taking 40 sec. exposure, Color filter, binning = 3)
```

Preview Last Image

Auto-Guider Preview

If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Expose 20 sec. | | Imaging | |
| UTC: | 08:36:51 | RA: | 12:05:51.81 | Filter | Color | Target | M108 |
| LST: | 13:55:29 | Dec: | 08°39'18.6" | Binning | 3:1 | | |
| Local: | 02:36:51 | Az: | 232.4° | Cooler | -20°C/58% | | |
| Date: | 27-03-12 | Alt: | 55.0° | Guider | | | |
| Owner | Len Adam | Air: | 1.2 | Idle | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| *Hover mouse over links* | | | | | Ey: --.-- | | |

Current Running Script Output:

```
02:35:48   Average residual is 0.89 arcsec.
02:35:48   Pointing error is 1.152 arcmin @ angle 16.35
02:35:48   True focal length is 110.3 cm.
02:35:48   True image center (J2000): 11h 11m 32.4s   55° 41' 07.50"
02:35:48   Imager sky position angle is 10.8 deg.
02:35:49   Performing Corrective Slew to Center Target.
02:35:49   Start slew to M108...
02:35:54   (wait for slew to complete)
02:36:06   (slew complete)
02:36:06   Target is now centered.
02:36:06   === GEM flip Complete ===
02:36:06   === Focusing on Initial Focus, filter Color ===
02:36:06   Slewing to Focus Star   RA: 12h 05m 12.0s DEC: 08° 43' 58" (J
02:36:06   Start slew to Focus Zone...
02:36:11   (wait for slew to complete)
02:36:43   (slew complete)
02:36:43   === Centering Focus Zone ===
02:36:43   Updating pointing...
02:36:44   (taking 20 sec. exposure, Color filter, binning = 3)
```

One Click Comet
Single Image

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If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Shutter Closed | | Imaging | |
| UTC: | 08:37:44 | RA: | 12:05:37.98 | Filter | Color | Target | M108 |
| LST: | 13:56:22 | Dec: | 08°40'28.4" | Binning | 3:1 | | |
| Local: | 02:37:44 | Az: | 232.7° | Cooler | -20°C/57% | | |
| Date: | 27-03-12 | Alt: | 54.8° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.2 | Idle | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| *Hover mouse over links* | | | | | Ey: --.-- | | |

Current Running Script Output:

```
02:36:43   === Centering Focus Zone ===
02:36:43   Updating pointing...
02:36:44   (taking 20 sec. exposure, Color filter, binning = 3)
02:37:18   Plate-solve pointing image.
02:37:18   65 image stars found
02:37:18   Trying to plate solve last exposure...
02:37:19   Plate Solved! 26 stars matched.
02:37:19   Average residual is 0.81 arcsec.
02:37:19   Pointing error is 3.745 arcmin @ angle 113.82
02:37:19   True focal length is 110.3 cm.
02:37:19   True image center (J2000): 12h 05m 25.9s   08° 42' 27.27"
02:37:19   Imager sky position angle is 10.8 deg.
02:37:20   Performing Corrective Slew to Center Target.
02:37:20   Start slew to Focus Zone...
02:37:26   (wait for slew to complete)
02:37:37   (slew complete)
02:37:37   Target is now centered.
02:37:37   Recording focusing star Ra/Dec
02:37:37   Using Color filter for imaging
```

Preview Last Image

Auto-Guider Preview

If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Autofocus Busy | | AutoFocus | |
| UTC: | 08:38:25 | RA: | 12:05:37.96 | Filter | Color | Target | Focus Star |
| LST: | 13:57:03 | Dec: | 08°40'26.0" | Binning | 3:1 | | |
| Local: | 02:38:25 | Az: | 233.0° | Cooler | -20°C/60% | | |
| Date: | 27-03-12 | Alt: | 54.7° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.2 | Idle | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| *Hover mouse over links* | | | | | Ey: --.-- | | |

Current Running Script Output:

```
Current position = 1807
Focus Start is current position: 1807
Exposing Central Region = 40% of CCD width
Target star found at  X = 794, Y = 580
Focus exposures will be 1.00 sec
Position , HFD , Mean Best Focus , X , Y , Flux
1807   ,   5.55   ,  0   ,  797   ,  580   ,  515372
HFD < NearFocus HFD
1790   ,   6.91   ,  0   ,  796   ,  626   ,  680305
On correct side of focus
Move to Near Focus HFD
1771   ,  12.26   ,  0   ,  798   ,  626   ,  698288
1778   ,  12.26   ,  0   ,  785   ,  621   ,  664502
** Starting Near Focus **
Position , HFD , Mean Best Focus , X , Y , Flux
1778   ,  12.26   ,  1814   ,  785   ,  621   ,  664502
1778   ,  12.25   ,  1814   ,  784   ,  621   ,  681682
1778   ,  12.10   ,  1814   ,  785   ,  620   ,  696720
1778   ,  12.31   ,  1814   ,  784   ,  620   ,  736695
```

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| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Expose 20 sec. | | Imaging | |
| UTC: | 08:39:34 | RA: | 11:12:14.59 | Filter | Color | Target | M108 |
| LST: | 13:58:12 | Dec: | 55°35'31.3" | Binning | 3:1 | | |
| Local: | 02:39:34 | Az: | 321.1° | Cooler | -20°C/60% | | |
| Date: | 27-03-12 | Alt: | 53.5° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.2 | Idle | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| *Hover mouse over links* | | | | | Ey: --.-- | | |

Current Running Script Output:

```
   1778  ,  12.10  ,  1814  ,  785  ,  620  ,  696720
   1778  ,  12.31  ,  1814  ,  784  ,  620  ,  736695
   1778  ,  12.48  ,  1814  ,  785  ,  621  ,  706125
   Best Focus is: 1814
   1814  ,   4.79  ,  1814  ,  782  ,  617  ,  399792
   Position = 1814  Avg HFD =  4.79
   Focusing Completed
   Focus time = 40 sec
02:38:34   FocusMax auto-focus successful!
02:38:34   HFD = 4.79
02:38:34 # Focus position = 1814
02:38:34   Autofocus finished.
02:38:34   Slewing to M108
02:38:34   Start slew to M108...
02:38:39   (wait for slew to complete)
02:39:13   (slew complete)
02:39:13   === Centering M108 ===
02:39:13   Updating pointing...
02:39:14   (taking 20 sec. exposure, Color filter, binning = 3)
```

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| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Slew 48.1° | | Shutter Closed | | Imaging | |
| UTC: | 08:38:56 | | | | | Target | M108 |
| LST: | 13:57:34 | RA: | 11:12:14.94 | Filter | Color | | |
| Local: | 02:38:56 | Dec: | 53°06'38.5" | Binning | 3:1 | | |
| Date: | 27-03-12 | Az: | 317.1° | Cooler | -20°C/57% | | |
| Owner | Len Adam | Alt: | 54.4° | Guider | | | |
| Weather | n/a | Air: | 1.2 | Idle | | | |
| *Hover mouse over links* | | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| | | | | | Ey: --.-- | | |

Current Running Script Output:

```
   ** Starting Near Focus **
   Position , HFD , Mean Best Focus , X , Y , Flux
   1778  ,  12.26  ,  1814  ,  785  ,  621  ,  664502
   1778  ,  12.25  ,  1814  ,  784  ,  621  ,  681682
   1778  ,  12.10  ,  1814  ,  785  ,  620  ,  696720
   1778  ,  12.31  ,  1814  ,  784  ,  620  ,  736695
   1778  ,  12.48  ,  1814  ,  785  ,  621  ,  706125
   Best Focus is: 1814
   1814  ,   4.79  ,  1814  ,  782  ,  617  ,  399792
   Position = 1814  Avg HFD =  4.79
   Focusing Completed
   Focus time = 40 sec
02:38:34   FocusMax auto-focus successful!
02:38:34   HFD = 4.79
02:38:34 # Focus position = 1814
02:38:34   Autofocus finished.
02:38:34   Slewing to M108
02:38:34   Start slew to M108...
02:38:39   (wait for slew to complete)
```

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| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Shutter Closed | | Imaging | |
| UTC: | 08:41:12 | RA: | 11:12:11.64 | Filter | Color | Target | M108 |
| LST: | 13:59:51 | Dec: | 55°34'23.9" | Binning | 3:1 | | |
| Local: | 02:41:12 | Az: | 320.9° | Cooler | -20°C/59% | | |
| Date: | 27-03-12 | Alt: | 53.3° | Guider | | | |
| Owner | Len Adam | Air: | 1.2 | Idle | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| *Hover mouse over links* | | | | | Ey: --.-- | | |

Current Running Script Output:

```
02:39:48   Trying to plate solve last exposure...
02:39:50   Plate Solved! 25 stars matched.
02:39:50   Average residual is 0.7 arcsec.
02:39:50   Pointing error is 0.680 arcmin @ angle 18.25
02:39:50   True focal length is 110.3 cm.
02:39:50   True image center (J2000): 11h 11m 31.6s   55° 40' 39.94"
02:39:50   Imager sky position angle is 10.8 deg.
02:39:51   Performing Corrective Slew to Center Target.
02:39:51   Start slew to M108...
02:39:56   (wait for slew to complete)
02:40:08   (slew complete)
02:40:08   Target is now centered.
02:40:08   (long exp(s) or requested, no orbital tracking, trying to aut
02:40:11   (finding guide star, 4 second exposure)
02:40:18   (finding guide star, 5 second exposure)
02:40:25   (finding guide star, 6 second exposure)
02:40:33   (finding guide star, 7 second exposure)
02:40:41   (finding guide star via platesolve, 25 seconds)
02:41:10   Waiting for guider to settle
```

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| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Expose 300 sec. | | Imaging | |
| UTC: | 08:42:11 | RA: | 11:12:11.17 | Filter | Color | Target | M108 |
| LST: | 14:00:50 | Dec: | 55°34'27.1" | Binning | 1:1 | | |
| Local: | 02:42:11 | Az: | 320.8° | Cooler | -20°C/60% | | |
| Date: | 27-03-12 | Alt: | 53.1° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.2 | Guiding | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: -0.02 | | |
| *Hover mouse over links* | | | | | Ey: 0.02 | | |

Current Running Script Output:

```
02:40:08   Target is now centered.
02:40:08   (long exp(s) or requested, no orbital tracking, trying to aut
02:40:11   (finding guide star, 4 second exposure)
02:40:18   (finding guide star, 5 second exposure)
02:40:25   (finding guide star, 6 second exposure)
02:40:33   (finding guide star, 7 second exposure)
02:40:41   (finding guide star via platesolve, 25 seconds)
02:41:10   Waiting for guider to settle
02:41:18   Guider X=0.28 Y=0.51
02:41:26   Guider X=0.17 Y=0.07
02:41:26   (autoguiding at 7.00 sec.)
02:41:26 # Image 1 of 1      Moon is not currently visible
02:41:26   Target: M108   RA: 11h 11m 30.1s DEC: 55° 40' 01" (J2000) HA:
02:41:26   Imaging to T3-lenadam-M108-20120326-024126-Color-BIN1-W-300-0
02:41:26   (taking 300 sec. exposure, Color filter, binning = 1)
02:41:39   Guider X=0.11 Y=-0.01
02:41:50   Guider X=-0.02 Y=-0.09
02:42:00   Guider X=0.05 Y=-0.13
02:42:09   Guider X=0.03 Y=-0.04
```

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If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Expose 300 sec. | | Imaging | |
| UTC: | 08:43:11 | RA: | 11:12:11.02 | Filter | Color | Target | M108 |
| LST: | 14:01:50 | Dec: | 55°34'27.0" | Binning | 1:1 | | |
| Local: | 02:43:11 | Az: | 320.7° | Cooler | -20°C/59% | | |
| Date: | 27-03-12 | Alt: | 53.0° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.3 | Guiding | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: 0.07 | | |
| *Hover mouse over links* | | | | | Ey: 0.01 | | |

Current Running Script Output:

```
02:40:41   (finding guide star via platesolve, 25 seconds)
02:41:10   Waiting for guider to settle
02:41:18   Guider X=0.28 Y=0.51
02:41:26   Guider X=0.17 Y=0.07
02:41:26   (autoguiding at 7.00 sec.)
02:41:26 # Image 1 of 1      Moon is not currently visible
02:41:26   Target: M108   RA: 11h 11m 30.1s DEC: 55° 40' 01" (J2000) HA:
02:41:26   Imaging to T3-lenadam-M108-20120326-024126-Color-BIN1-W-300-0
02:41:26   (taking 300 sec. exposure, Color filter, binning = 1)
02:41:39   Guider X=0.11 Y=-0.01
02:41:50   Guider X=-0.02 Y=-0.09
02:42:00   Guider X=0.05 Y=-0.13
02:42:09   Guider X=0.03 Y=-0.04
02:42:19   Guider X=0.06 Y=0.03
02:42:29   Guider X=0.11 Y=-0.02
02:42:39   Guider X=0.07 Y=-0.03
02:42:49   Guider X=0.04 Y=-0.01
02:42:59   Guider X=0.03 Y=0.02
02:43:09   Guider X=0.07 Y=0.01
```

Preview Last Image

Auto-Guider Preview

If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Expose 300 sec. | | Imaging | |
| UTC: | 08:45:10 | RA: | 11:12:11.30 | Filter | Color | Target | M108 |
| LST: | 14:03:49 | Dec: | 55°34'28.5" | Binning | 1:1 | | |
| Local: | 02:45:10 | Az: | 320.6° | Cooler | -20°C/56% | | |
| Date: | 27-03-12 | Alt: | 52.8° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.3 | Guiding | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: 0.03 | | |
| *Hover mouse over links* | | | | | Ey: 0.00 | | |

Current Running Script Output:

```
02:42:09   Guider X=0.03 Y=-0.04
02:42:19   Guider X=0.06 Y=0.03
02:42:29   Guider X=0.11 Y=-0.02
02:42:39   Guider X=0.07 Y=-0.03
02:42:49   Guider X=0.04 Y=-0.01
02:42:59   Guider X=0.03 Y=0.02
02:43:09   Guider X=0.07 Y=0.01
02:43:19   Guider X=0.12 Y=-0.06
02:43:29   Guider X=0.04 Y=-0.08
02:43:39   Guider X=0.06 Y=-0.05
02:43:49   Guider X=0.01 Y=-0.01
02:44:00   Guider X=0.07 Y=-0.01
02:44:09   Guider X=0.05 Y=-0.05
02:44:19   Guider X=0.08 Y=-0.07
02:44:29   Guider X=0.05 Y=-0.09
02:44:39   Guider X=0.08 Y=-0.05
02:44:49   Guider X=0.05 Y=-0.04
02:45:00   Guider X=0.04 Y=-0.07
02:45:09   Guider X=0.03 Y=0.00
```

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| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Shutter Closed | | Imaging | |
| UTC: | 08:46:27 | RA: | 11:12:11.37 | Filter | Color | Target | M108 |
| LST: | 14:05:07 | Dec: | 55°34'28.5" | Binning | 1:1 | | |
| Local: | 02:46:27 | Az: | 320.5° | Cooler | -20°C/58% | | |
| Date: | 27-03-12 | Alt: | 52.6° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.3 | Guiding | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: 0.12 | | |
| *Hover mouse over links* | | | | | Ey: 0.00 | | |

Current Running Script Output:

```
02:43:19   Guider X=0.12 Y=-0.06
02:43:29   Guider X=0.04 Y=-0.08
02:43:39   Guider X=0.06 Y=-0.05
02:43:49   Guider X=0.01 Y=-0.01
02:44:00   Guider X=0.07 Y=-0.01
02:44:09   Guider X=0.05 Y=-0.05
02:44:19   Guider X=0.08 Y=-0.07
02:44:29   Guider X=0.05 Y=-0.09
02:44:39   Guider X=0.08 Y=-0.05
02:44:49   Guider X=0.05 Y=-0.04
02:45:00   Guider X=0.04 Y=-0.07
02:45:09   Guider X=0.03 Y=0.00
02:45:19   Guider X=0.07 Y=-0.05
02:45:29   Guider X=0.11 Y=-0.03
02:45:39   Guider X=0.06 Y=-0.07
02:45:49   Guider X=0.04 Y=-0.10
02:45:59   Guider X=0.02 Y=-0.06
02:46:10   Guider X=0.01 Y=0.00
02:46:20   Guider X=0.06 Y=-0.07
```

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| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| In use | | Sidereal Track | | Shutter Closed | | Imaging | |
| UTC: | 08:47:09 | RA: | 11:12:11.29 | Filter | Color | Target | M108 |
| LST: | 14:05:48 | Dec: | 55°34'29.3" | Binning | 1:1 | | |
| Local: | 02:47:09 | Az: | 320.4° | Cooler | -20°C/58% | | |
| Date: | 27-03-12 | Alt: | 52.5° | **Guider** | | | |
| Owner | Len Adam | Air: | 1.3 | Guiding | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: 0.07 | | |
| *Hover mouse over links* | | | | | Ey: -0.04 | | |

Current Running Script Output:

```
02:43:49   Guider X=0.01 Y=-0.01
02:44:00   Guider X=0.07 Y=-0.01
02:44:09   Guider X=0.05 Y=-0.05
02:44:19   Guider X=0.08 Y=-0.07
02:44:29   Guider X=0.05 Y=-0.09
02:44:39   Guider X=0.08 Y=-0.05
02:44:49   Guider X=0.05 Y=-0.04
02:45:00   Guider X=0.04 Y=-0.07
02:45:09   Guider X=0.03 Y=0.00
02:45:19   Guider X=0.07 Y=-0.05
02:45:29   Guider X=0.11 Y=-0.03
02:45:39   Guider X=0.06 Y=-0.07
02:45:49   Guider X=0.04 Y=-0.10
02:45:59   Guider X=0.02 Y=-0.06
02:46:10   Guider X=0.01 Y=0.00
02:46:20   Guider X=0.06 Y=-0.07
02:47:01   Image File Saved to T3-lenadam-M108-20120326-024126-Color-BIN
02:47:03   Creating Preview Image
02:47:07   Saving FITS Color Image
```

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| Observatory | |
|---|---|
| In use | |
| UTC: | 08:47:51 |
| LST: | 14:06:30 |
| Local: | 02:47:51 |
| Date: | 27-03-12 |
| Owner | Len Adam |
| Weather | n/a |

*Hover mouse over links*

| Telescope | |
|---|---|
| Stopped | |
| RA: | 11:12:17.46 |
| Dec: | 55°34'30.4" |
| Az: | 320.3° |
| Alt: | 52.4° |
| Air: | 1.3 |

*RA/Dec local topo*

| Imager | |
|---|---|
| Shutter Closed | |
| Filter | Color |
| Binning | 1:1 |
| Cooler | -20°C/58% |

| Guider | |
|---|---|
| Idle | |
| Error | Ex: --.-- |
| | Ey: --.-- |

| Activity | |
|---|---|
| Imaging | |
| Target | M108 |

Current Running Script Output:

```
02:44:19   Guider X=0.08 Y=-0.07
02:44:29   Guider X=0.05 Y=-0.09
02:44:39   Guider X=0.08 Y=-0.05
02:44:49   Guider X=0.05 Y=-0.04
02:45:00   Guider X=0.04 Y=-0.07
02:45:09   Guider X=0.03 Y=0.00
02:45:19   Guider X=0.07 Y=-0.05
02:45:29   Guider X=0.11 Y=-0.03
02:45:39   Guider X=0.06 Y=-0.07
02:45:49   Guider X=0.04 Y=-0.10
02:45:59   Guider X=0.02 Y=-0.06
02:46:10   Guider X=0.01 Y=0.00
02:46:20   Guider X=0.06 Y=-0.07
02:47:01   Image File Saved to T3-lenadam-M108-20120326-024126-Color-BIN
02:47:03   Creating Preview Image
02:47:07   Saving FITS Color Image
02:47:44   (autoguider stopped)
02:47:44   (turning tracking off for safety)
02:47:44   Parking-Telescope
```

Preview Last Image

Auto-Guider Preview

If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | | Telescope | | Imager | | Activity | |
|---|---|---|---|---|---|---|---|
| Available | | Stopped | | Idle | | Idle | |
| UTC: | 08:48:15 | RA: | 11:12:32.25 | Filter | Color | Target | n/a |
| LST: | 14:06:54 | Dec: | 55°34'29.7" | Binning | 1:1 | | |
| Local: | 02:48:15 | Az: | 320.3° | Cooler | -20°C/57% | | |
| Date: | 27-03-12 | Alt: | 52.4° | Guider | | | |
| Owner | Free | Air: | 1.3 | Idle | | | |
| Weather | n/a | *RA/Dec local topo* | | Error | Ex: --.-- | | |
| *Hover mouse over links* | | | | | Ey: --.-- | | |

Current Running Script Output:

```
02:45:39   Guider X=0.06 Y=-0.07
02:45:49   Guider X=0.04 Y=-0.10
02:45:59   Guider X=0.02 Y=-0.06
02:46:10   Guider X=0.01 Y=0.00
02:46:20   Guider X=0.06 Y=-0.07
02:47:01   Image File Saved to T3-lenadam-M108-20120326-024126-Color-BIN
02:47:03   Creating Preview Image
02:47:07   Saving FITS Color Image
02:47:44   (autoguider stopped)
02:47:44   (turning tracking off for safety)
02:47:44   Parking-Telescope
02:47:58   Auto-Logoff within 30 seconds
02:47:58   The script has finished
02:47:58
02:47:58   ---> No Script is Running <---
02:47:58
02:47:58   To view your previous run logs
02:47:58   click on Run Logs
02:47:58
```

One Click Comet
Single Image

**Imaging**
Run Image Series
Run Scripted Plan
Acquire Comet/NEO

**Toolbox**
Plan Generator

Pending Reservations
Cal. (Dark/Bias)
Deep Sky Catalog
Welcome Page
AAVSO VPhot

**My Documents**
My Observing Plans
Run Logs
My Image Files

**Support**
Contact Support
Tutorials
FAQ

**Observatory**
View Observatory
Preview Last Image

Preview Last Image

Auto-Guider Preview

If the System Status page isn't refreshing correctly or seems to be hung, please hit the reload button on your browser.

| Observatory | Telescope | Imager | Activity |
|---|---|---|---|
| Available | Stopped | Idle | Idle |
| UTC: 08:48:57 | RA: 11:13:15.46 | Filter Color | Target n/a |
| LST: 14:07:37 | Dec: 55°34'29.7" | Binning 1:1 | |
| Local: 02:48:57 | Az: 320.3° | Cooler -20°C/58% | |
| Date: 27-03-12 | Alt: 52.4° | **Guider** | |
| Owner Free | Air: 1.3 | Idle | |
| Weather n/a | *RA/Dec local topo* | Error Ex: --.-- | |
| *Hover mouse over links* | | Ey: --.-- | |

Current Running Script Output:

```
02:45:39   Guider X=0.06 Y=-0.07
02:45:49   Guider X=0.04 Y=-0.10
02:45:59   Guider X=0.02 Y=-0.06
02:46:10   Guider X=0.01 Y=0.00
02:46:20   Guider X=0.06 Y=-0.07
02:47:01   Image File Saved to T3-lenadam-M108-20120326-024126-Color-BIN
02:47:03   Creating Preview Image
02:47:07   Saving FITS Color Image
02:47:44   (autoguider stopped)
02:47:44   (turning tracking off for safety)
02:47:44   Parking-Telescope
02:47:58   Auto-Logoff within 30 seconds
02:47:58   The script has finished
02:47:58
02:47:58   ---> No Script is Running <---
02:47:58
02:47:58   To view your previous run logs
02:47:58   click on Run Logs
02:47:58
```


Len Adam
Unknown - www.itelescope.net
3/27/2012 2:47:59 AM

FOUR REMOTE TELESCOPE SYSTEMS FOR YOU TO CONSIDER:

1. NASA funded ***MicroObservatory Remote Telescope Network*** *from the* ***Harvard-Smithsonian Center for Astrophysics*** *using 6 inch Maksutov telescopes in* ***Arizona and Massachusetts. (FREE)***

2. *The* ***Bradford Robotic Telescope*** *using a* ***Celestron 14*** *located at 7000 ft on top of* ***Mount Teide in Tenerife. (FREE)***

3. ***The Sierra Stars Observatory Network using a 24 inch (0.61m) Cassegrain Telescope located in California, a 14.5 inch (0.37m) telescope located at 5000 ft in Arizona. and a 32 inch (0.81m) telescope located at 9000 ft in Arizona. (Subscription required)***

4. ***The iTelescope.net (formerly Global Rent-a-Scope) network of 12 telescopes with telescopes in New Mexico USA, Nerpio Spain , Victoria Australia. Includes a 6 inch refractor, 10 inch astrograph, 12.5, 17 and 20 inch Dall-Kirkham Astrographs, 3 and 4 inch wide field refractors. (Subscription required)***

THE END