How to Propose: An Introduction

NASSP, 1 April 2009

The most important slide

If you have any questions or problems with any of the proposal tools, do not hesitate to send an email to

salthelp@saao.ac.za

A first attempt for a proposal

Shall I compare thee to a summer's day?

Thou art more lively and more temperate.

But thy eternal summer shall not fade

Nor lose possession of that fair thou owest.

Might be suitable for your loved one,
but definitely *not* for SALT...

A second attempt for a proposal

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Proposal id="2007-1-RSA-015" final="false" Version="0.52"
          PrincipalInvestigator="dibnob@saao.ac.za"
          PrincipalContact="dibnob@saao.ac.za">
    <Title>
        Occultation of Triton
    </Title>
    <Abstract>
        SALTICAM in slotmode will be used...
    <Abstract>
</Proposal>
```

You surely don‘t want to write this yourself!

RIGHT OF ADMISSION RESERVED
So how do you get your proposal
beyond this door?

The proposing process

1. Plan your observation.
2. Create your proposal.
3. Submit your proposal.
4. Check and accept your proposal.
5. If necessary, resubmit your proposal.
6. Hope for good weather.
7. Receive your data.

Plan your observation

- What do you need to do?

  There are two simulators which can help you in deciding about your instrument configuration:
  Salticam Simulator
  RSS Simulator
  There also is a tool for creating slit masks, but this won‘t be discussed here.

Plan your Observation

- When and how long can your target(s) be observed?

There is a tool for checking the visibility:
Visibility Tool

Create and (re-)submit your proposal

There is a tool for assisting you when creating, submitting or resubmitting a proposal:

Principal Investigator Proposal Tool (PIPT)

Check and accept your proposal

Your proposal can be checked and accepted with a dedicated online tool:

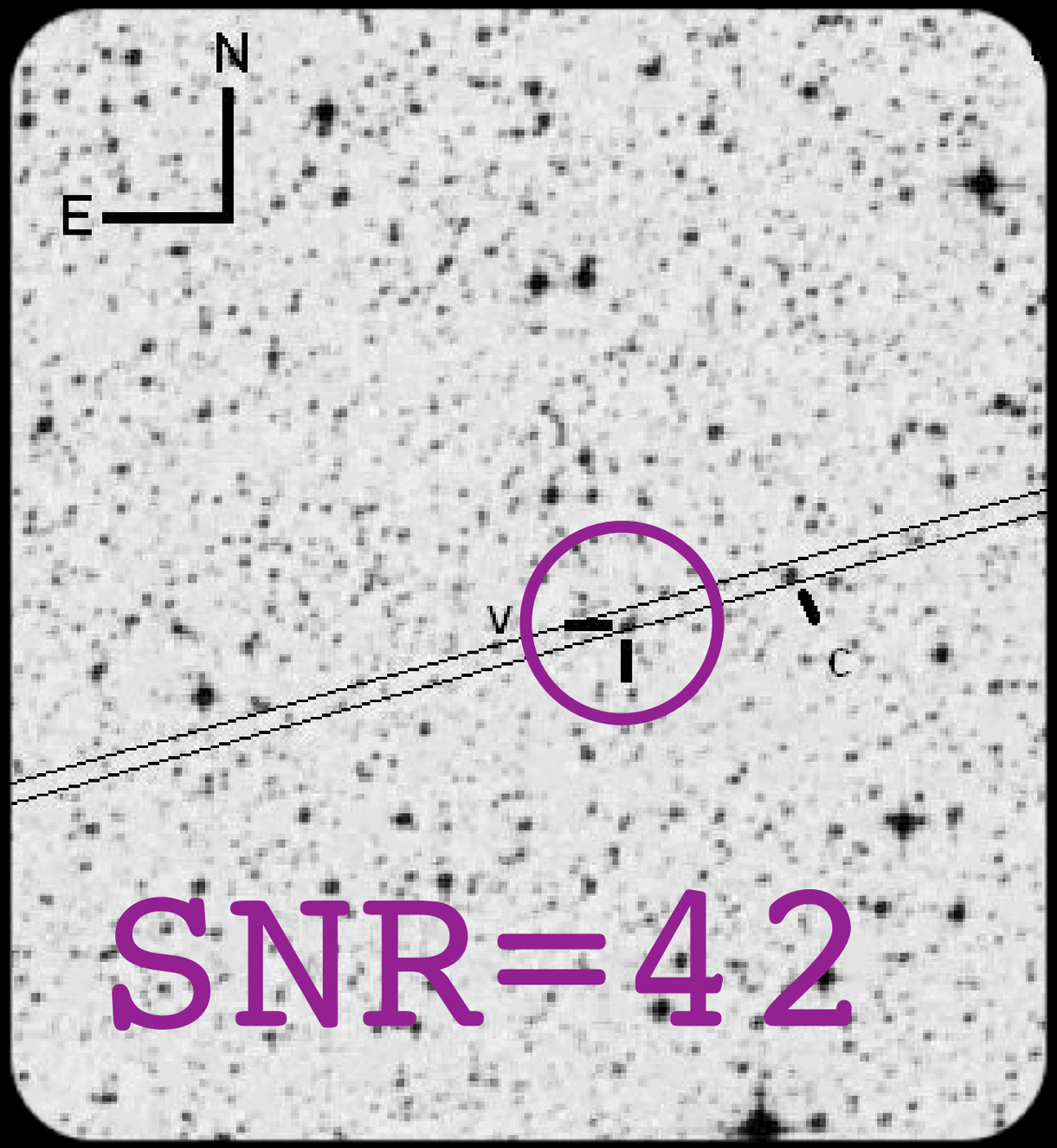
Web Manager

Hope for good weather

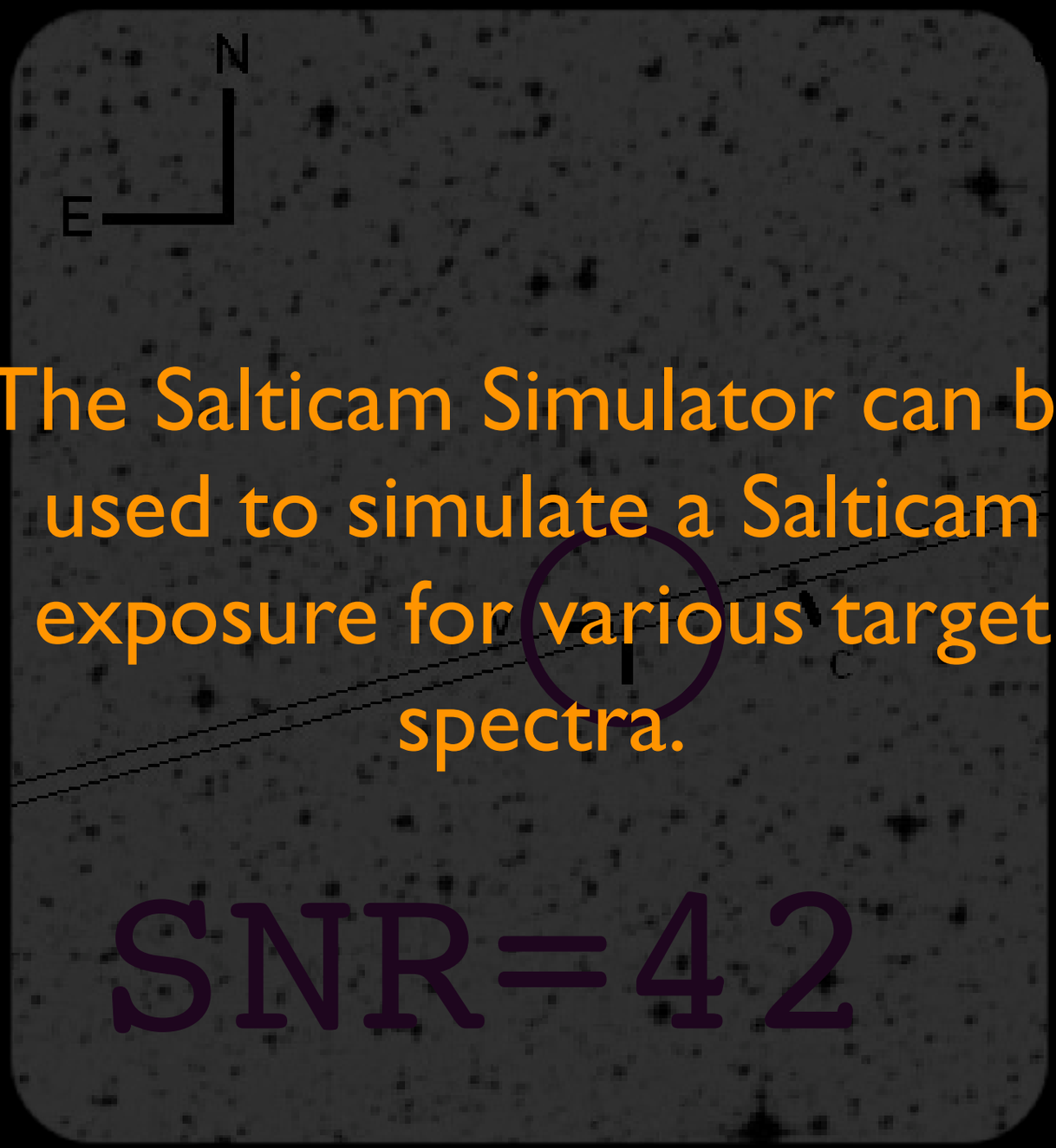
Receive your data

...This is beyond the scope of this talk ...

Salticam Simulator



Salticam Simulator



The Salticam Simulator can be used to simulate a Salticam exposure for various target spectra.

SNR=42

Salticam Simulator Tool (Version 0.9)

Generate Spectra | Make an Exposure

Use? V Mag: 20 Temperature (K): 5.000

Power Law

Use? V Mag: 20 Index: -2

choose target spectrum

Kurucz Model

Use? V Mag: 20 Temperature (K): 10.000 log(G): 0.0 log(Z): 0.0

User-Supplied Spectrum

Use? V Mag: 20 Choose File or Choose URL URL: N/A

Emission Line

Use? V Mag: 20 Wavelength (A): 5.000 FWHM (A) 20 Flux: 1.0E-15

Solar Items

Obs. Year 2.005 Solar Elongation: 180 Ecliptic Latitude: -90

Lunar Items

Quick Select: Dark Moon ZD: 180 Lunar Phase: 180 Lunar Elongation: 180

Earthly Items

Target ZD: 37 Effective Telescope Area: 460.000 Seeing (Zenith): Median (0.9") FWHM (focal plane): 1,19"

magnitudes for spectrum

UBVRI Magnitudes

U:	19,1	B:	20,1	V:	20,0	R:	19,8	I:	19,5
U:	22,8	B:	23,0	V:	22,0	R:	21,3	I:	20,0

Display Spectrum

Salticam Simulator Tool (Version 0.9)

Generate Spectra | Make an Exposure

Set Exposure Type

Filter Mode: Single Filter CCD Mode: Normal

Exposure Time per Frame (s): 100 Overhead Time: 18.20 s

Number of Cycles: 1

Number of Iterations: 1 Total Readouts: 1

Total observation time for all frames, including overheads: 118 s

Binned Rows: 2

Binned Columns: 2

Gain: Bright

Readout Speed: Slow

Filter: R-S1

Click "Expose" to generate statistics summed over all cycles and iterations

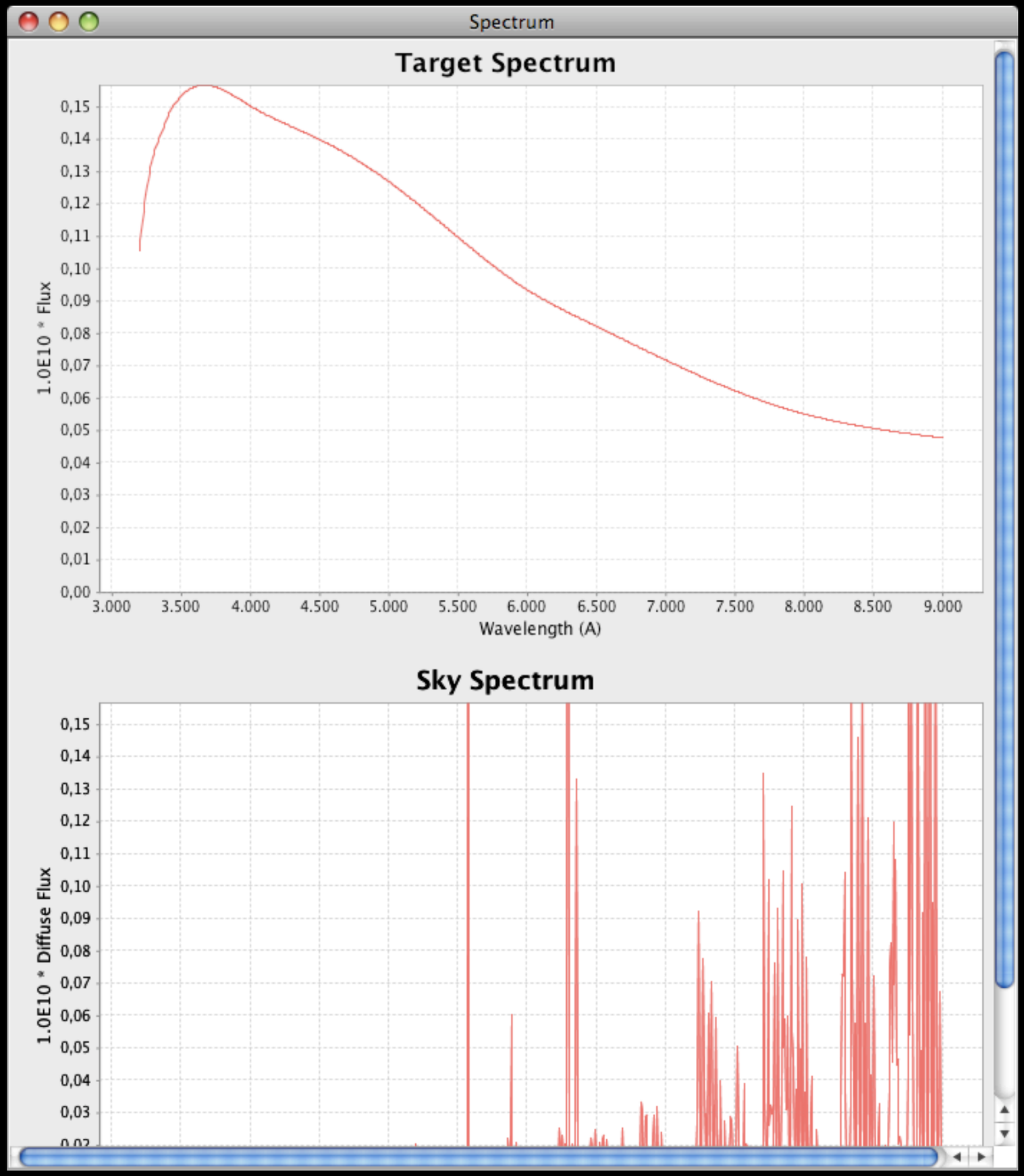
S/N: 300 Object Counts: 108,670 Sky Counts: 22,015 Pixel Saturation: 8.11 %

Expose

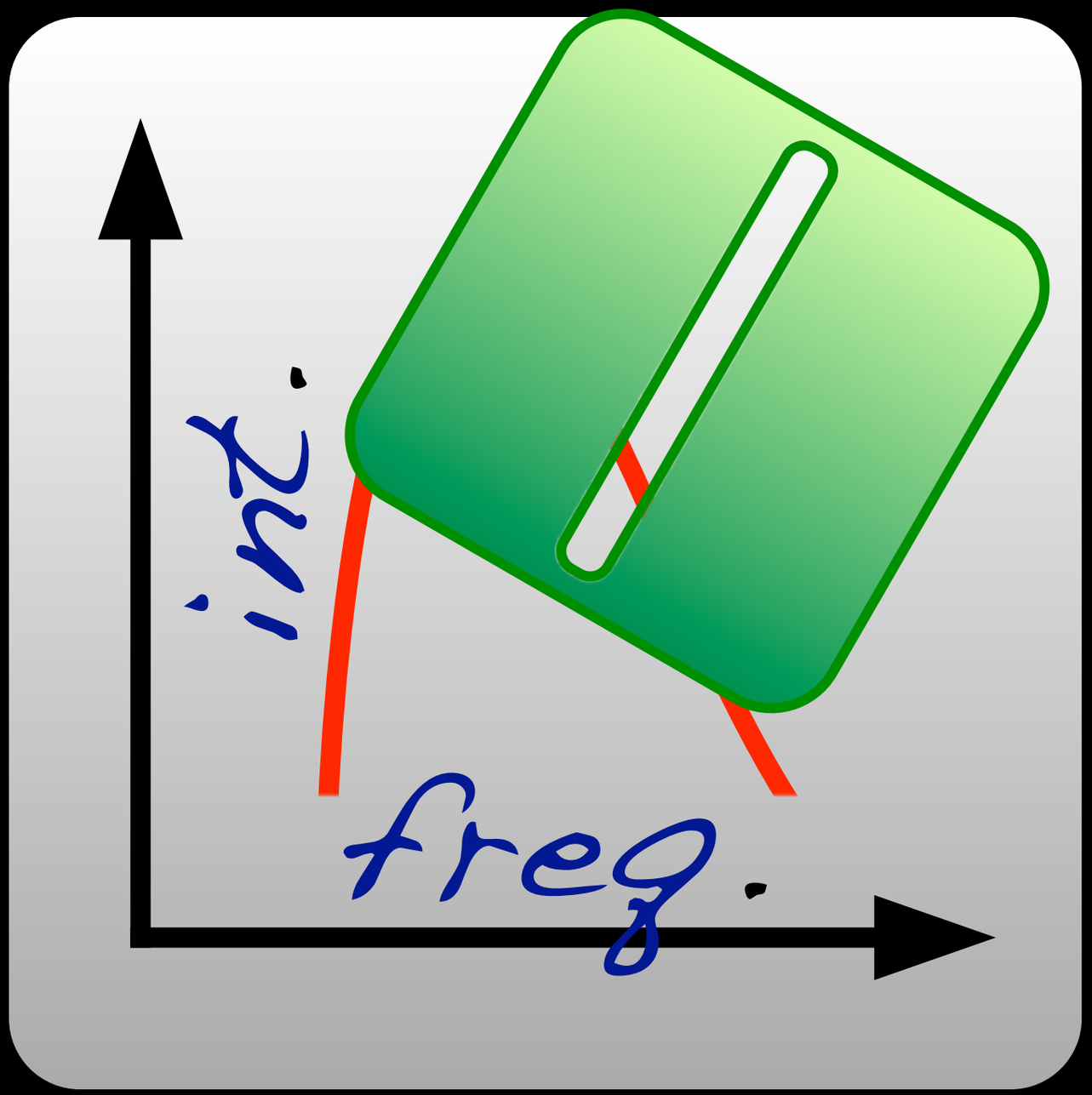
choose detector setup

signal-to-noise, counts, saturation

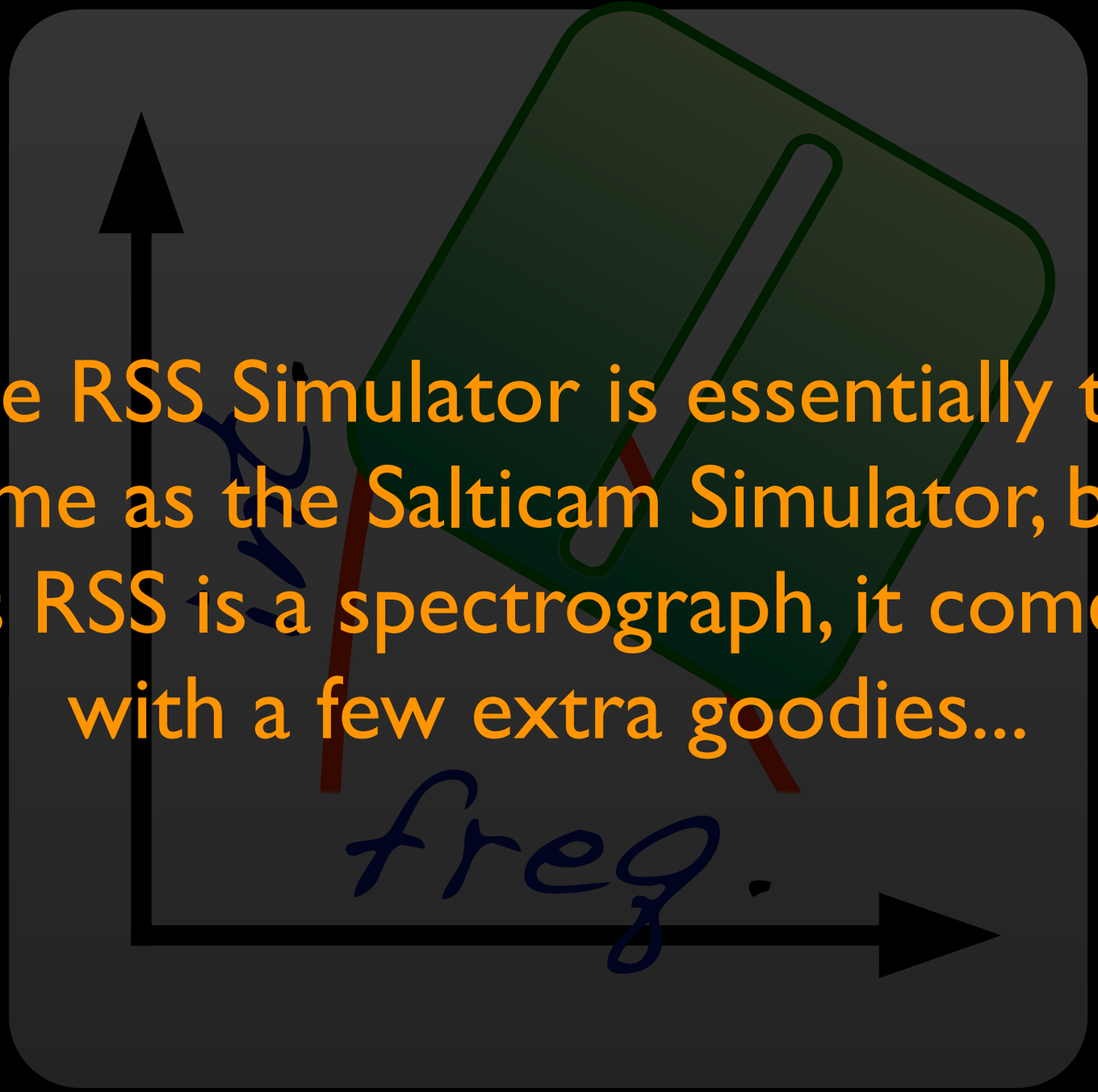
Compare target and background spectra



RSS Simulator



RSS Simulator



The RSS Simulator is essentially the same as the Salticam Simulator, but as RSS is a spectrograph, it comes with a few extra goodies...

RSS Simulator Tool (Version 2.3)

Generate Spectra | Configure RSS | Make an Exposure

Imaging | Spectroscopy | Fabry-Perot

Iterations 1

☐ **Use Polarimetry**

Slit Type Longslit

Slit Width 1.2 arcseconds

Slit Throughput: 0.764 (for a FWHM of 1.19")

Grating pg1800

Camera Station 73 83 93 103 113 123 — 75.25 deg

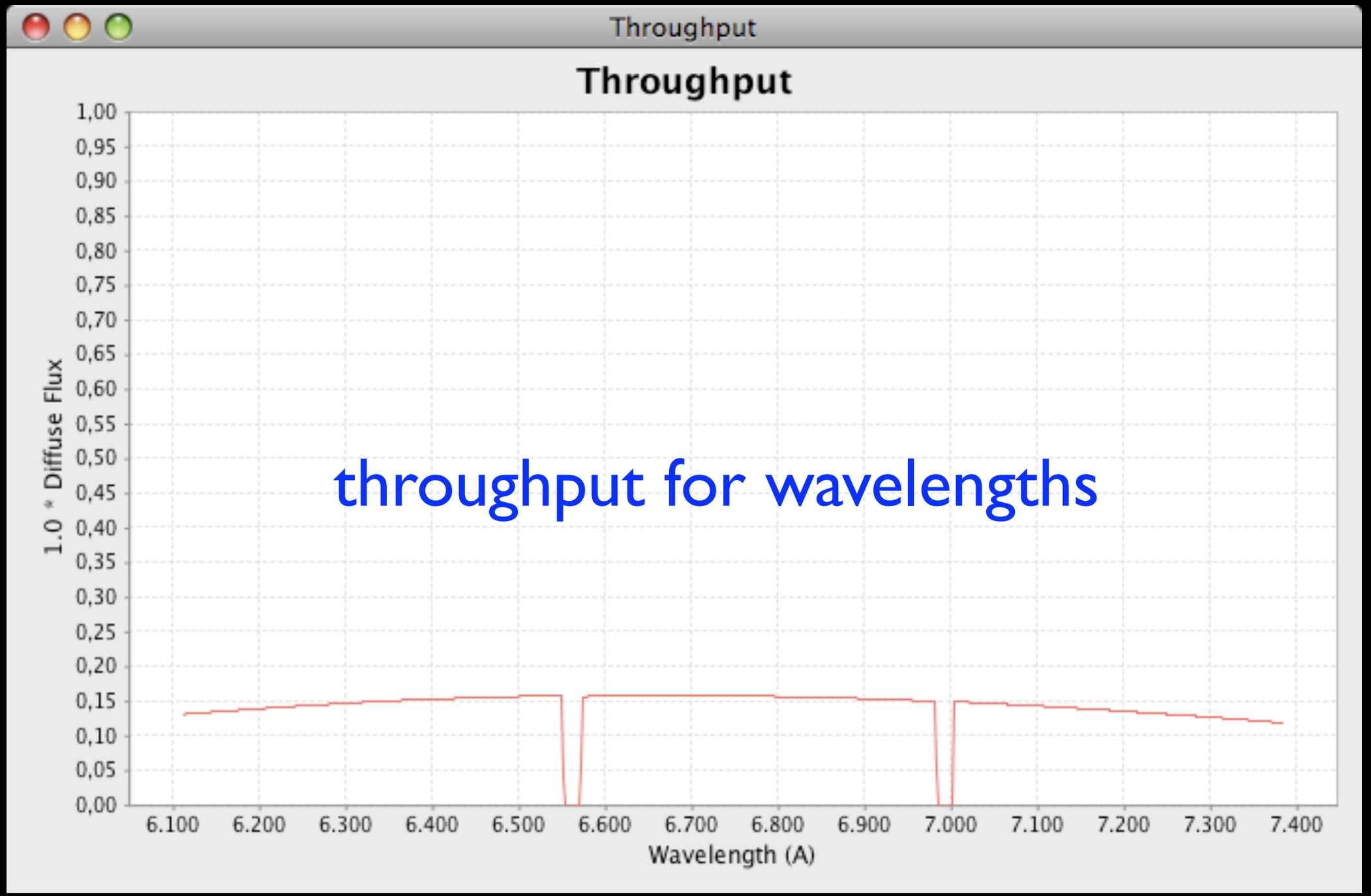
Grating Angle 0 10 20 30 40 50 60 70 80 90 100 — 37.625 deg

Order Blocking Filter pc04600

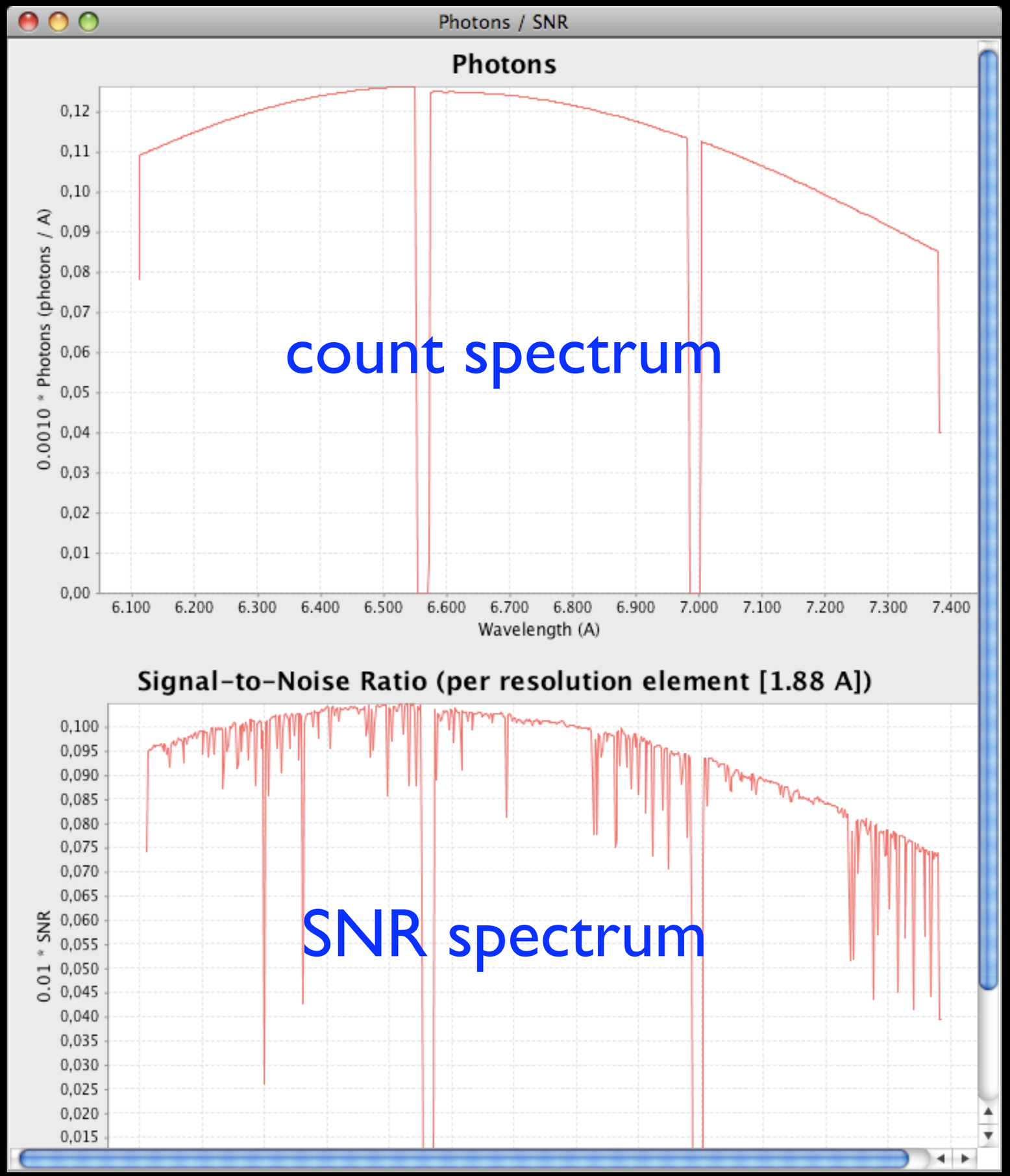
Resolving Power:	3,613.4 A
Blue Chip Edge:	6,112.5 A
Blue Chip Gap:	6,553.0 A - 6,573.9 A
Central Wavelength:	6,783.2 A
Red Chip Gap:	6,985.2 A - 7,004.5 A
Red Chip Edge:	7,382.9 A

wavelength coverage

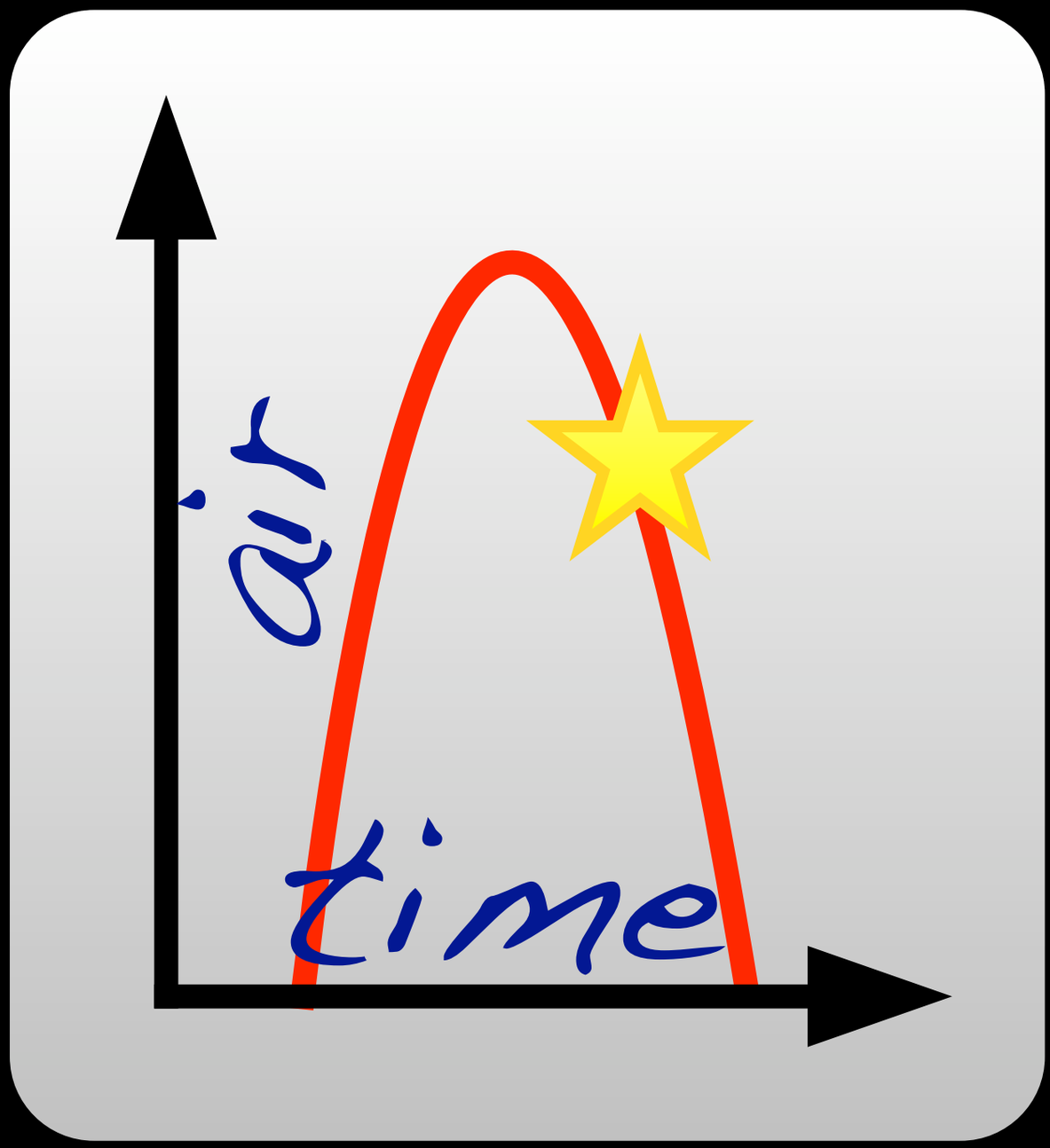
Display Throughput



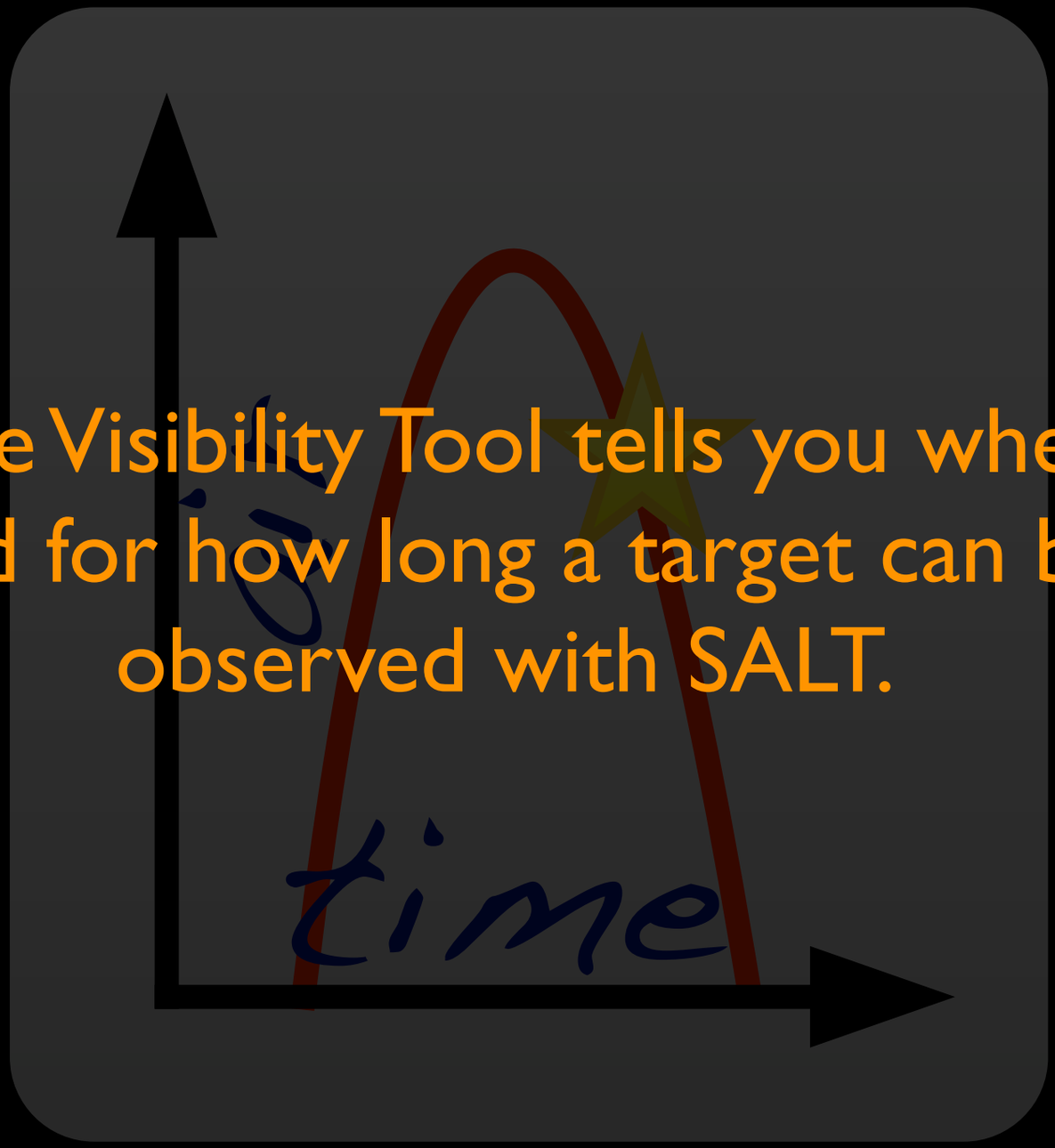
throughput for wavelengths


Photons / SNR
Photons
0,12
0,11
0,10
0,09
0,08
0,07
0,06
0,05
0,04
0,03
0,02
0,01
0,00
0.0010 * Photons (photons / A)
6.100
6.200
6.300
6.400
6.500
6.600
6.700
6.800
6.900
7.000
7.100
7.200
7.300
7.400
Wavelength (A)
count spectrum
Signal-to-Noise Ratio (per resolution element [1.88 A])
0,100
0,095
0,090
0,085
0,080
0,075
0,070
0,065
0,060
0,055
0,050
0,045
0,040
0,035
0,030
0,025
0,020
0,015
0.01 * SNR
SNR spectrum

Visibility Tool



Visibility Tool



The Visibility Tool tells you when and for how long a target can be observed with SALT.

SALT Visibility Calculator (3.2)

Target:

Date: Mar 31 2009 2454922 Enter JD

The night begins on 31 March.

α: 12 h 0 m 0.0 s δ: − 0 ° 0 ' 0.0 "

Sun set: 16:38 UT Sun rise: 04:37 UT
Evening twilight: 17:56 UT Morning twilight: 03:19 UT
Moon set: 18:58 UT Moon rise: 08:35 UT

22%

Source Availability:

Start: 19:56 UT Stop: 00:05 UT Δt: 14,957s

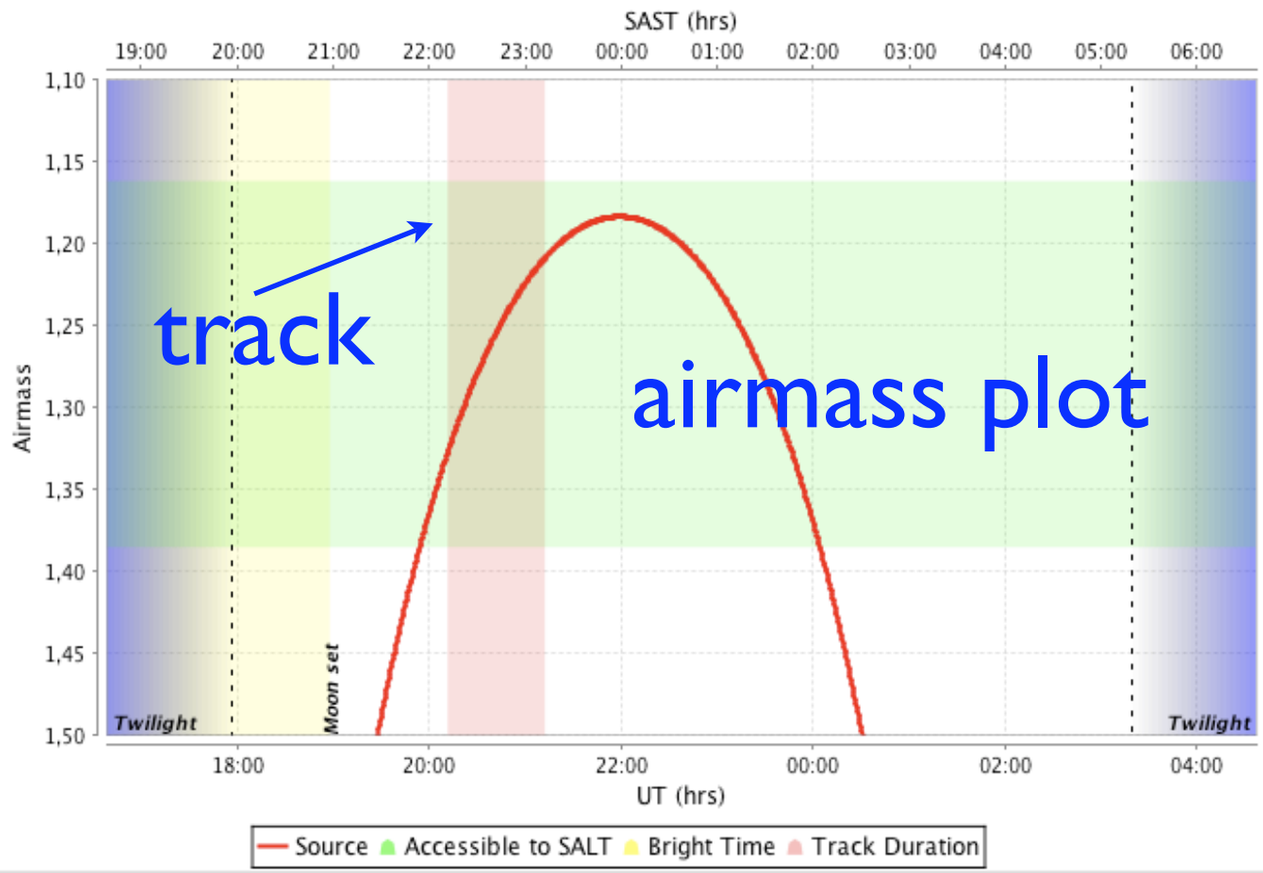
Track Time Remaining:

Start: 20 : 11 : 28 UT Duration: 3,646s

Update Plots

Moon and Sun

Nightly Visibility | Annual Visibility



SALT Visibility Calculator (3.2)

Target:

Date: Mar 31 2009 2454922 Enter JD

The night begins on 31 March.

α: 12 h 0 m 0.0 s δ: - 0 ° 0 ' 0.0 "

Sun set: 16:38 UT Sun rise: 04:37 UT
Evening twilight: 17:56 UT Morning twilight: 03:19 UT
Moon set: 18:58 UT Moon rise: 08:35 UT

22%

Source Availability:

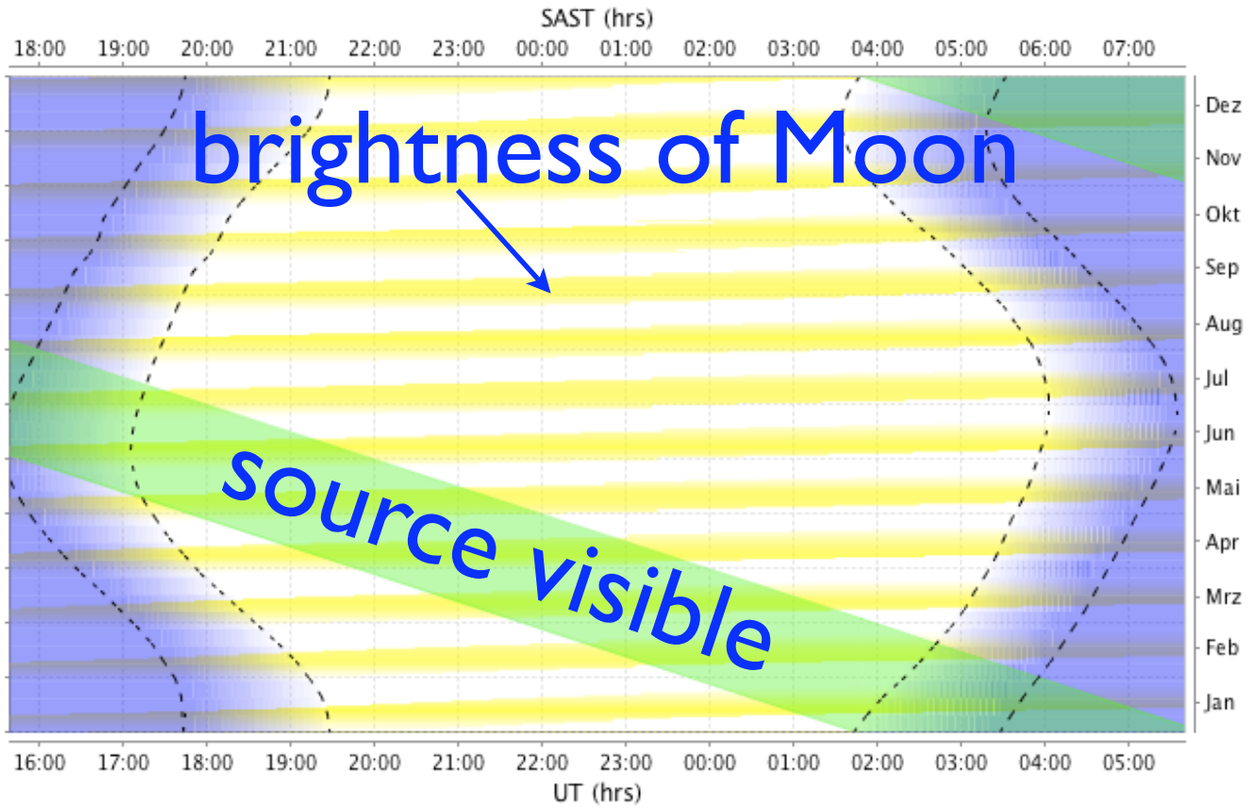
Start: 19:56 UT Stop: 00:05 UT Δt: 14,957s

Track Time Remaining:

Start: 19 : 56 : 36 UT Duration: 3,796s

Update Plots

Nightly Visibility | Annual Visibility

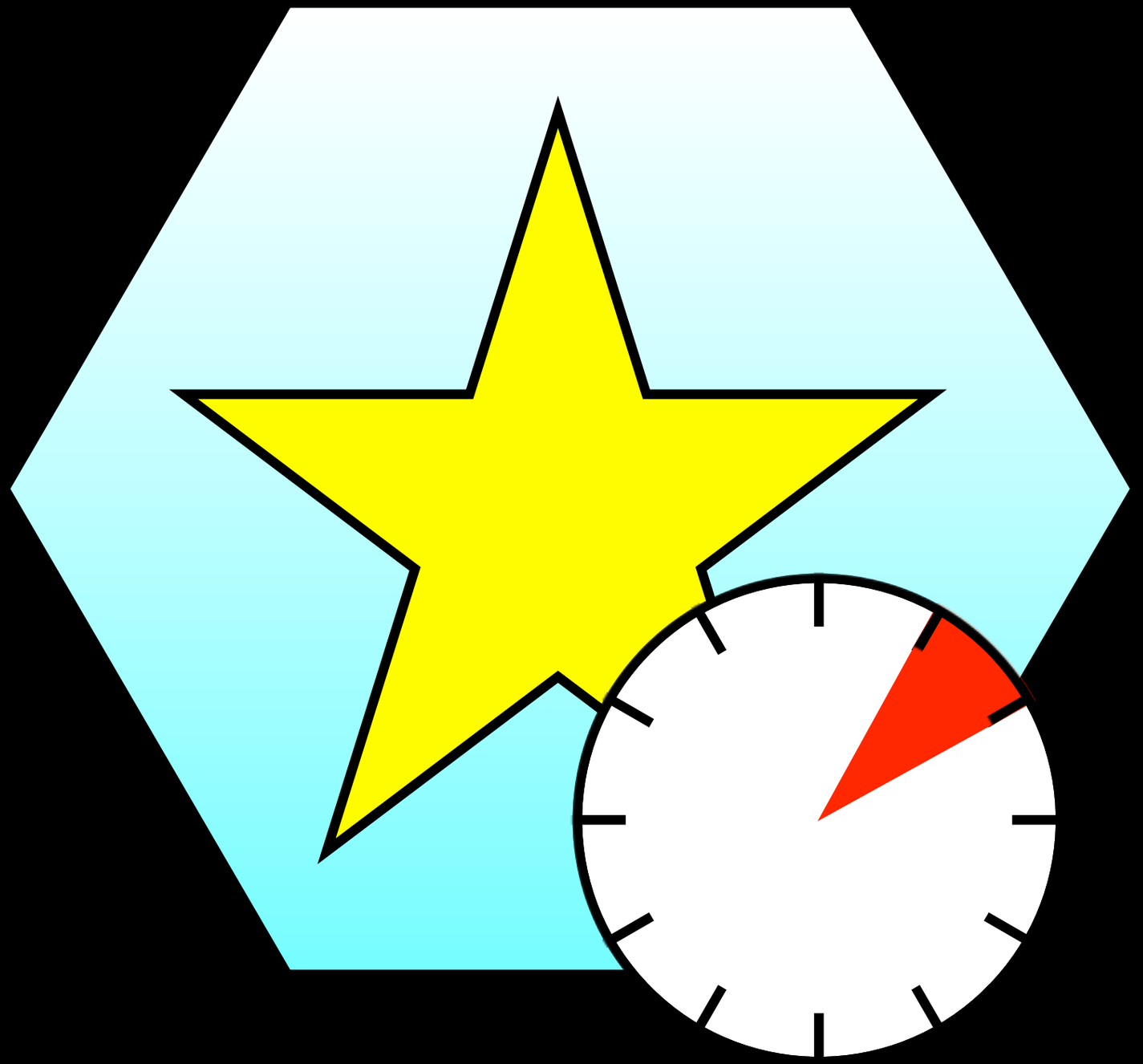


Beware!

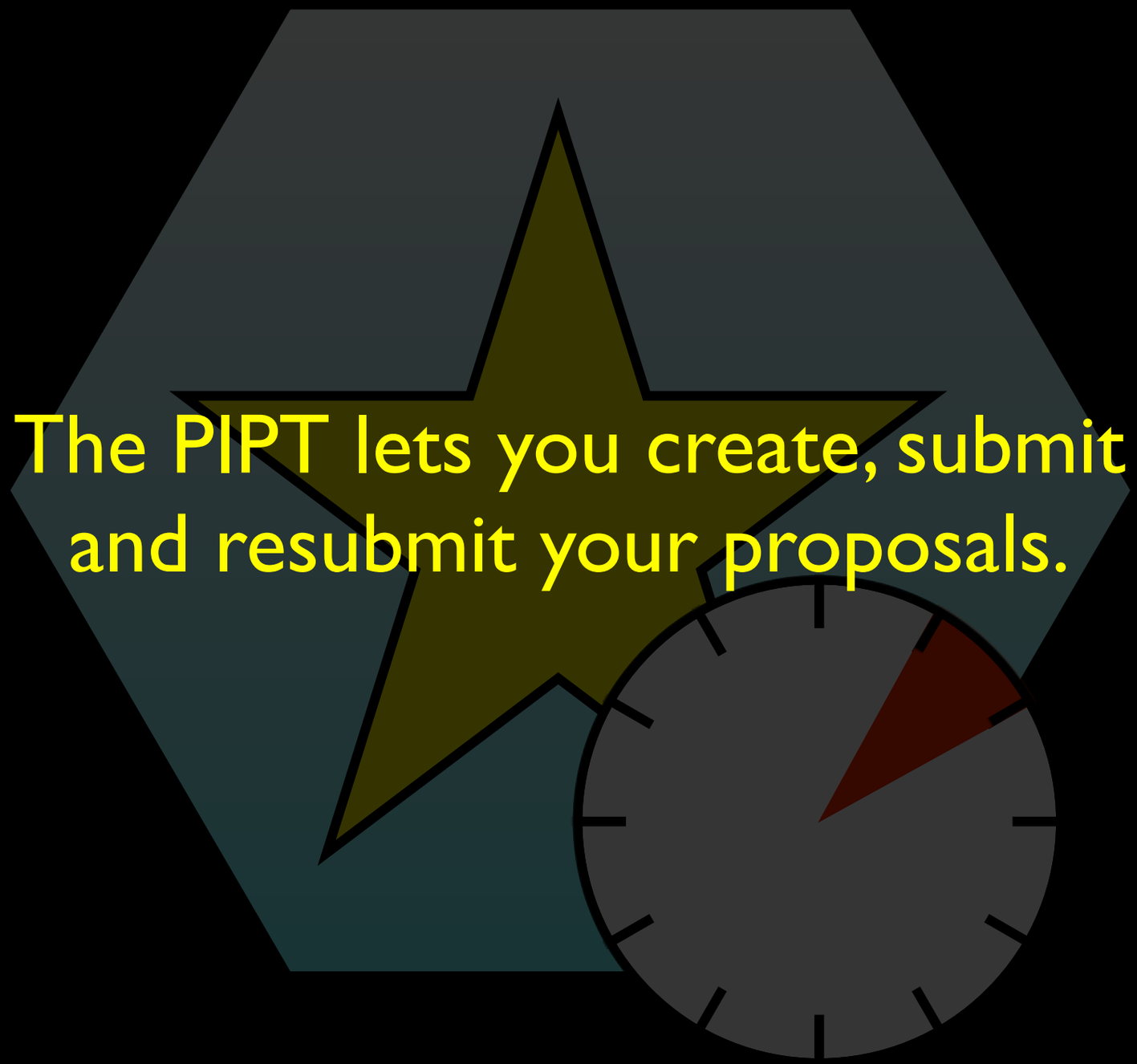
Note that the Visibility Tool tells you what the phase of the Moon is, but not how close it is to your target!

This will be improved in the next version.

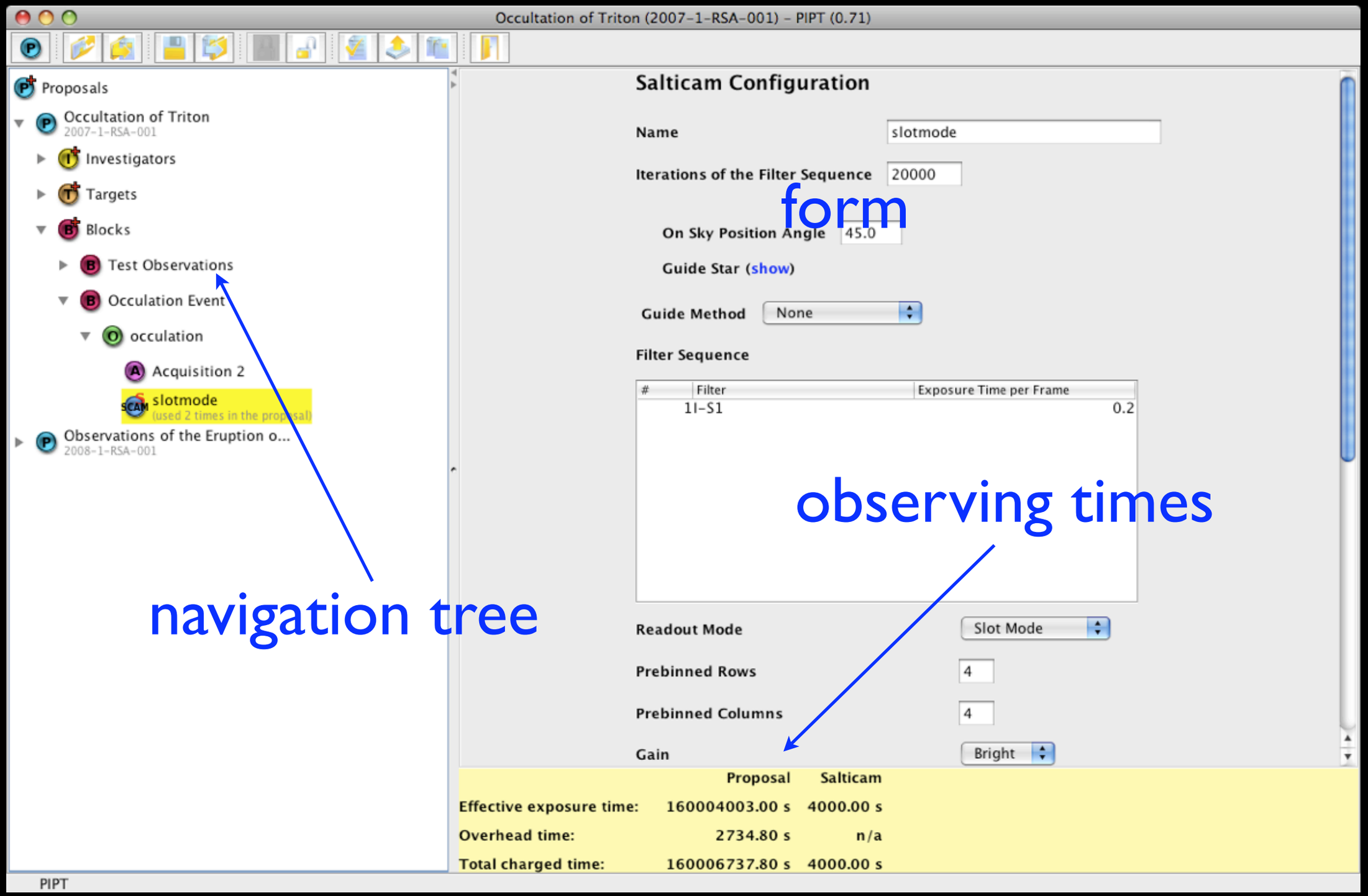
PIPT



PIPT



The PIPT lets you create, submit and resubmit your proposals.


Occultation of Triton (2007-1-RSA-001) - PIPT (0.71)
Proposals
Occultation of Triton
2007-1-RSA-001
Investigators
Targets
Blocks
Test Observations
Occulation Event
occulation
Acquisition 2
slotmode
(used 2 times in the proposal)
Observations of the Eruption o...
2008-1-RSA-001
Salticam Configuration
Name
slotmode
Iterations of the Filter Sequence
20000
form
On Sky Position Angle
45.0
Guide Star (show)
Guide Method
None
Filter Sequence
Filter Exposure Time per Frame
1I-S1 0.2
observing times
Readout Mode
Slot Mode
Prebinned Rows
4
Prebinned Columns
4
Gain
Bright
Proposal Salticam
Effective exposure time: 160004003.00 s 4000.00 s
Overhead time: 2734.80 s n/a
Total charged time: 160006737.80 s 4000.00 s
navigation tree
PIPT

Blocks

A Block is the *smallest unit which can be scheduled.*

In other words: All the content of a Block will be observed in one go, whereas different Blocks may be observed at different times.

Keep in mind...

- When you want to add or remove something, the right mouse button is your friend.
- Pay attention to the overhead times! Sometimes the overhead can be reduced significantly by choosing a more appropriate filter sequence.

Keep in mind...

- Don‘t forget about the track length.
- Red colour means that something is missing (but this isn‘t entirely reliable).
- You must have an account at http://wmteaching.salt.ac.za/wm before you can submit a proposal.
- Remember: Help is only an email away!

Web Manager

The Web Manager allows you to view your proposals, and it allows the SALT Astronomers to make administrative changes.

It is an online application, so you just need a browser for using it.

You can find it at http://wmteaching.salt.ac.za/wm

SALT – Web Manager – Home

http://wmteaching.salt.ac.za/wm/

Google

WM RT Java 5 Java 6 Apple Wikipedia WebSVN

SOUTHERN AFRICAN LARGE TELESCOPE

Web Manager

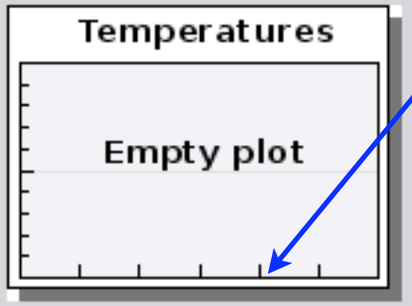
2007-1-RSA-001 Home Proposals SDB Query Options Admin Manual Hello Christian Hettlage! Logout

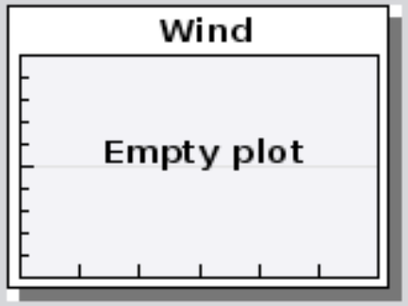
help

live weather data *(disabled)*

Web Manager 0.67

Weather





(click plots to enlarge)

Latest weather data	
Time:	01/01/70 02:00
T_inside:	0.00 °C
T_2m:	0.00 °C
T_30m:	0.00 °C
Wind speed:	0.00 m/s
Wind dir.:	0.00 °
Dewpt_in:	0.00 °C

PIPT Manager

For preparing and submitting your proposals please use the **PIPT Manager 0.71**.

News

add news

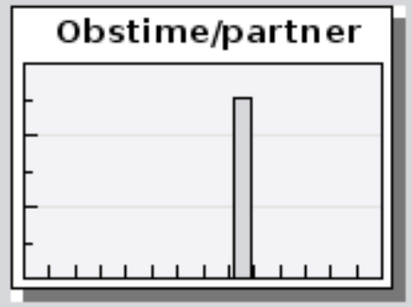
your proposals

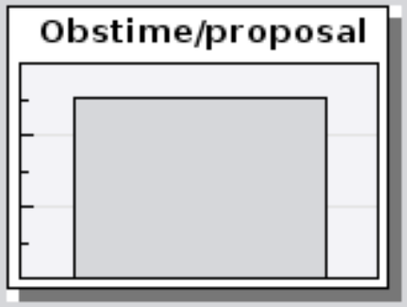
Proposals

* Your proposals					
Proposal	Proposal	Proposal	Proposal	Proposal	Proposal
Proposal_Code	Title	Semester	Year	ProposalStatus	PI
2007-1-RSA-001	WET Observations of Pulsating White Dwarfs	1	2007	Active	Christian Hettlage

* Active proposals					
Proposal	Proposal	Proposal	Proposal	Proposal	Proposal
Proposal_Code	Title	Semester	Year	ProposalStatus	PI
2007-1-RSA-001	WET Observations of Pulsating White	1	2007	Active	Christian Hettlage

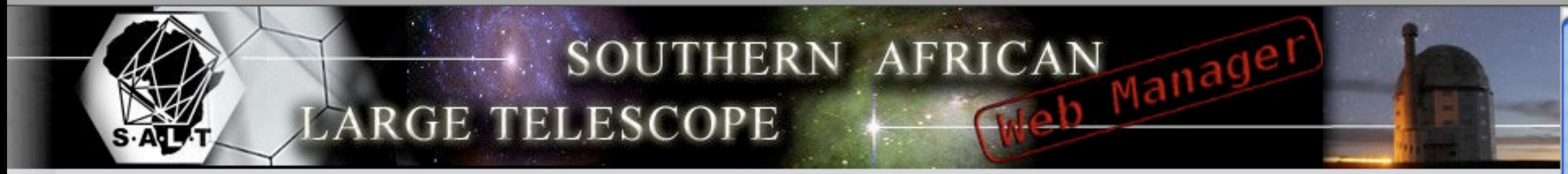
Partners & Proposals





(click plots to enlarge)

statistical data



View proposal (full mode)

proposal details

Proposal 2008-1-RSA-001

General
Title
Observations of the Eruption of U Sco

Code	Phase	Semester	Submission date
2008-1-RSA-001	2	1 / 2008	01/04/2009

Abstract

High speed slotmode photometry of the recurrent nova U Sco will be observed when the system goes into an outburst, which is expected to occur anytime over the next year or so (2009.3 +/- 1).

Warnings

This proposal is final and is going to be observed!

Details

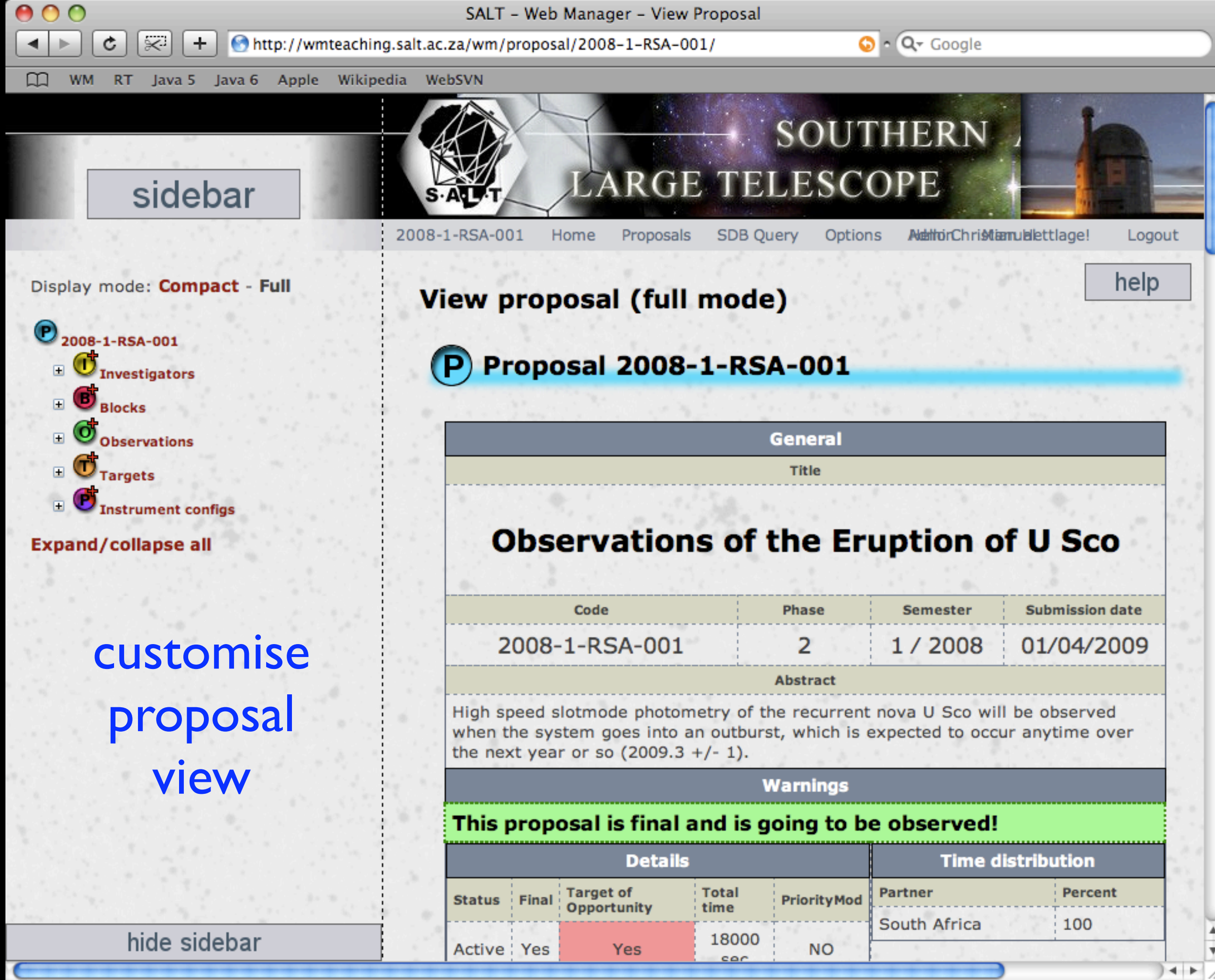
Status	Final	Target of Opportunity	Total time	PriorityMod
Active	Yes	Yes	18000 sec	NO

Download

Download XML

Time distribution

Partner	Percent
South Africa	100


SALT – Web Manager – View Proposal
http://wmteaching.salt.ac.za/wm/proposal/2008-1-RSA-001/
Google
WM RT Java 5 Java 6 Apple Wikipedia WebSVN
sidebar
SOUTHERN
LARGE TELESCOPE
S·A·L·T
2008-1-RSA-001 Home Proposals SDB Query Options Logout
Display mode: Compact - Full
2008-1-RSA-001
Investigators
Blocks
Observations
Targets
Instrument configs
Expand/collapse all
customise proposal view
hide sidebar
help
View proposal (full mode)
Proposal 2008-1-RSA-001
General
Title
Observations of the Eruption of U Sco
Code
Phase
Semester
Submission date
2008-1-RSA-001
2
1 / 2008
01/04/2009
Abstract
High speed slotmode photometry of the recurrent nova U Sco will be observed when the system goes into an outburst, which is expected to occur anytime over the next year or so (2009.3 +/- 1).
Warnings
This proposal is final and is going to be observed!
Details
Status
Final
Target of Opportunity
Total time
PriorityMod
Active
Yes
Yes
18000 sec
NO
Time distribution
Partner
Percent
South Africa
100

SALT – Web Manager – SDB query

http://wmteaching.salt.ac.za/wm/SdbQuery/Proposals/

WM RT Java 5 Java 6 Apple Wikipedia WebSVN

SOUTHERN AFRICAN LARGE TELESCOPE

Web Manager

2007-1-RSA-001 Home Proposals SDB Query Options Admin Manual Hello Christian Hettlage! Logout

help

SDB Query (Proposals)

Build query

Category	Field	Comparator	Value
Proposal	Proposal_Id	equals	

Add Add & Query

Field description

Internal ID of each proposal

Short links:

Only last submission Only final proposals

query your proposal(s)

Edit query

↑ ↓ ← → A

Reset Query

to SQL

Columns

Load/save queries

Page loaded in 2.25449585915 seconds.

© SAAO 2007

You are special!

A special server has been set up for the proposals you create as part of this course.

Please make sure that you create an account on and submit your proposals to this server only.

The URL is http://wmteaching.salt.ac.za/wm

Thanks!

Try it out yourself now!