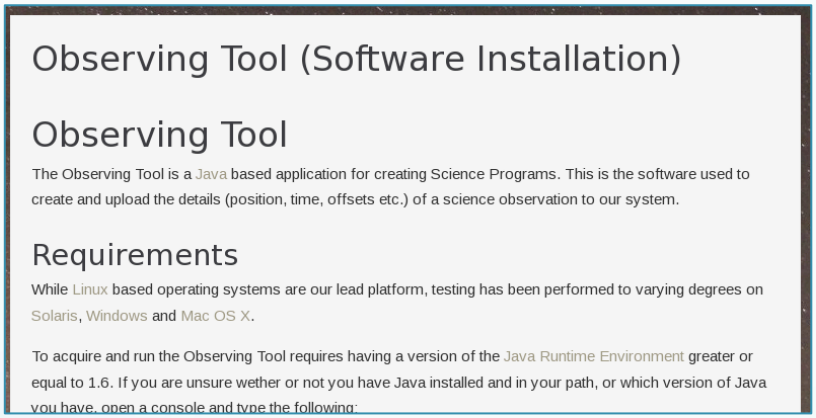
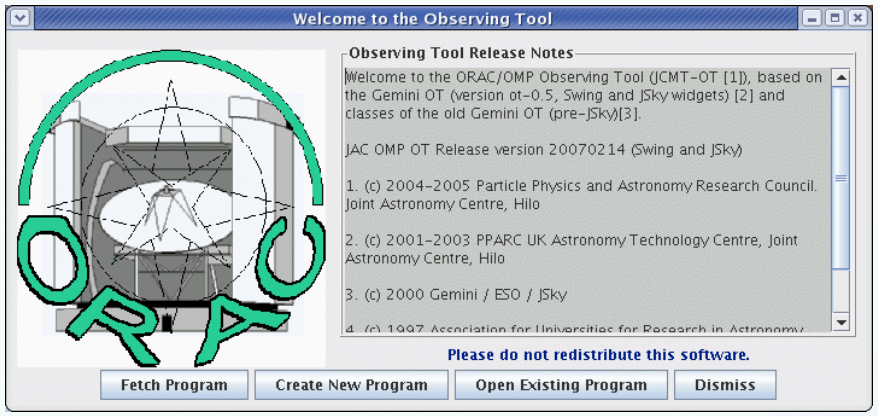
JCMT Observing Tool

Harriet Parsons, Support Scientist, JAC/EAO

To implement the topics covered in this workshop you will need:

- To register for an OMP ID
- To have a proposal approved by the Time Allocation Committee
- To have a project code: i.e. M14BJ01
- Downloaded and installed the JCMT Observing Tool (OT)





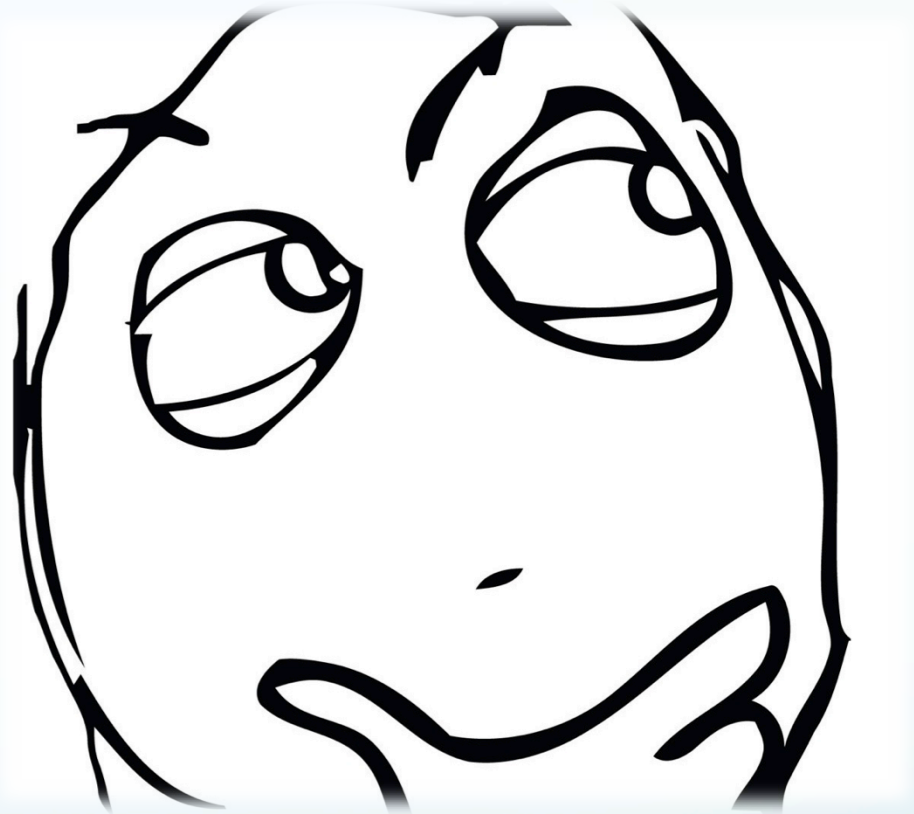
You may want to bookmark these links:

- www.eaobservatory.org/jcmt/observing/software-installation/#observing-tool
- www.eaobservatory.org/JCMT/observing-tool/

Example 1: SCUBA-2

I have an interesting fragmented star forming complex I wish to observe. I wish to obtain a depth of 5mJy at 850 microns. The region is located at an RA and Dec of: 19h and +09°.

The complex I am interested in is large and spreads out nearly a degree in extent, requiring a Pong 3600 to cover the entire region.



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Feedback:

You have been successful in your request for time. The TAC felt you put forward a strong scientific case for observing this field. You have been approved 16 hours of Band 3 time.

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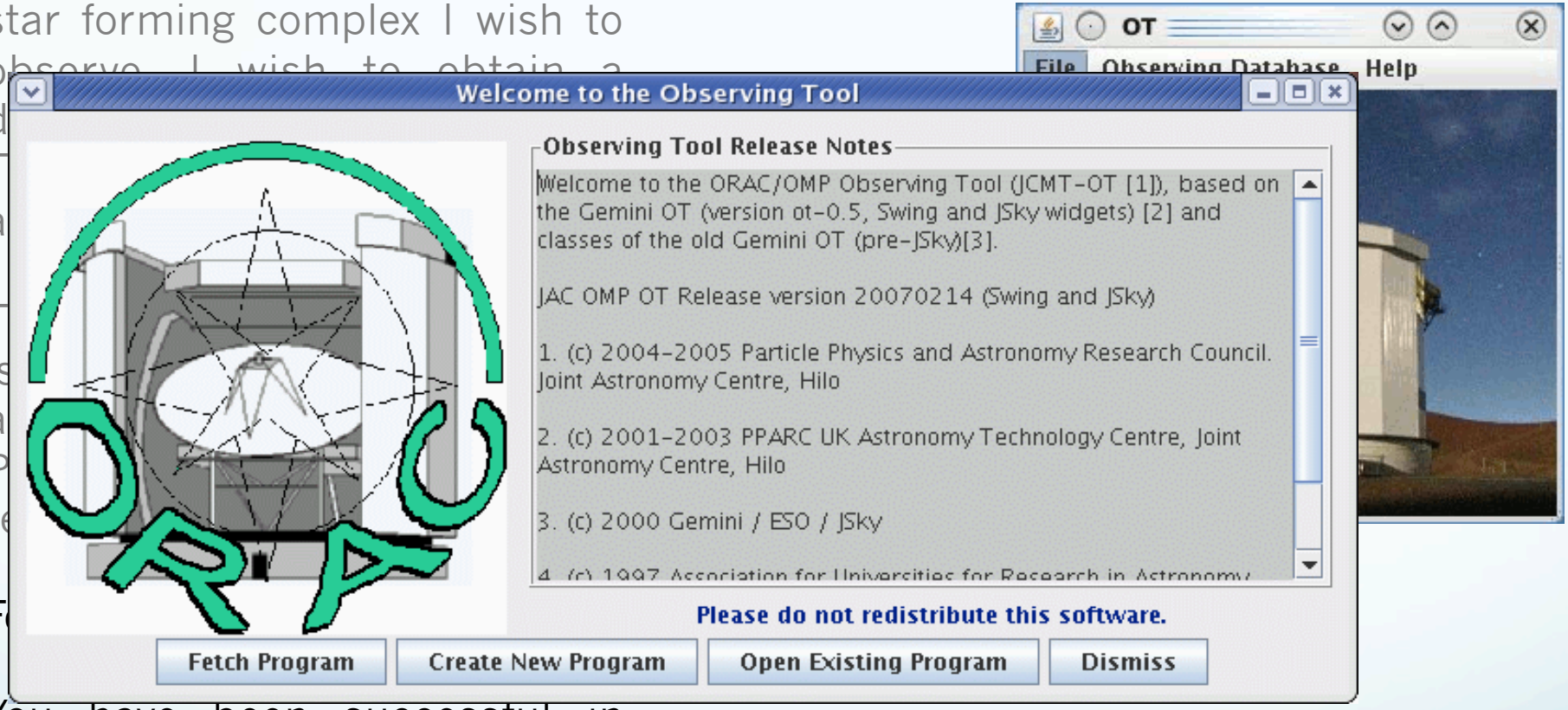

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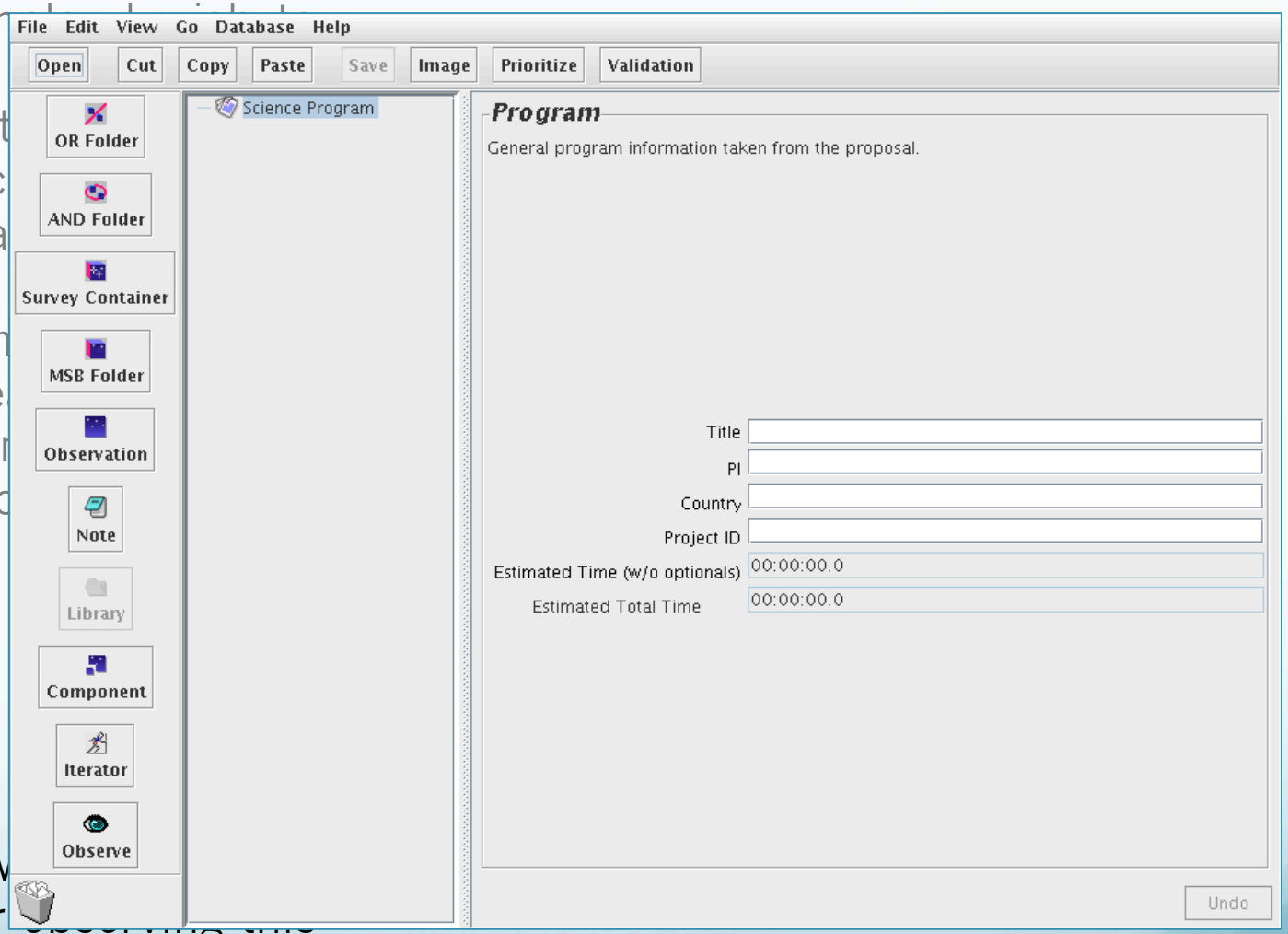

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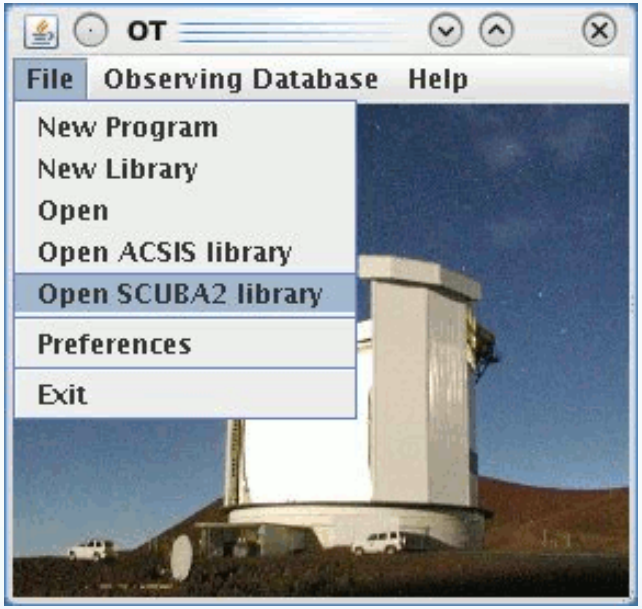
Open SCUBA-2 Library:



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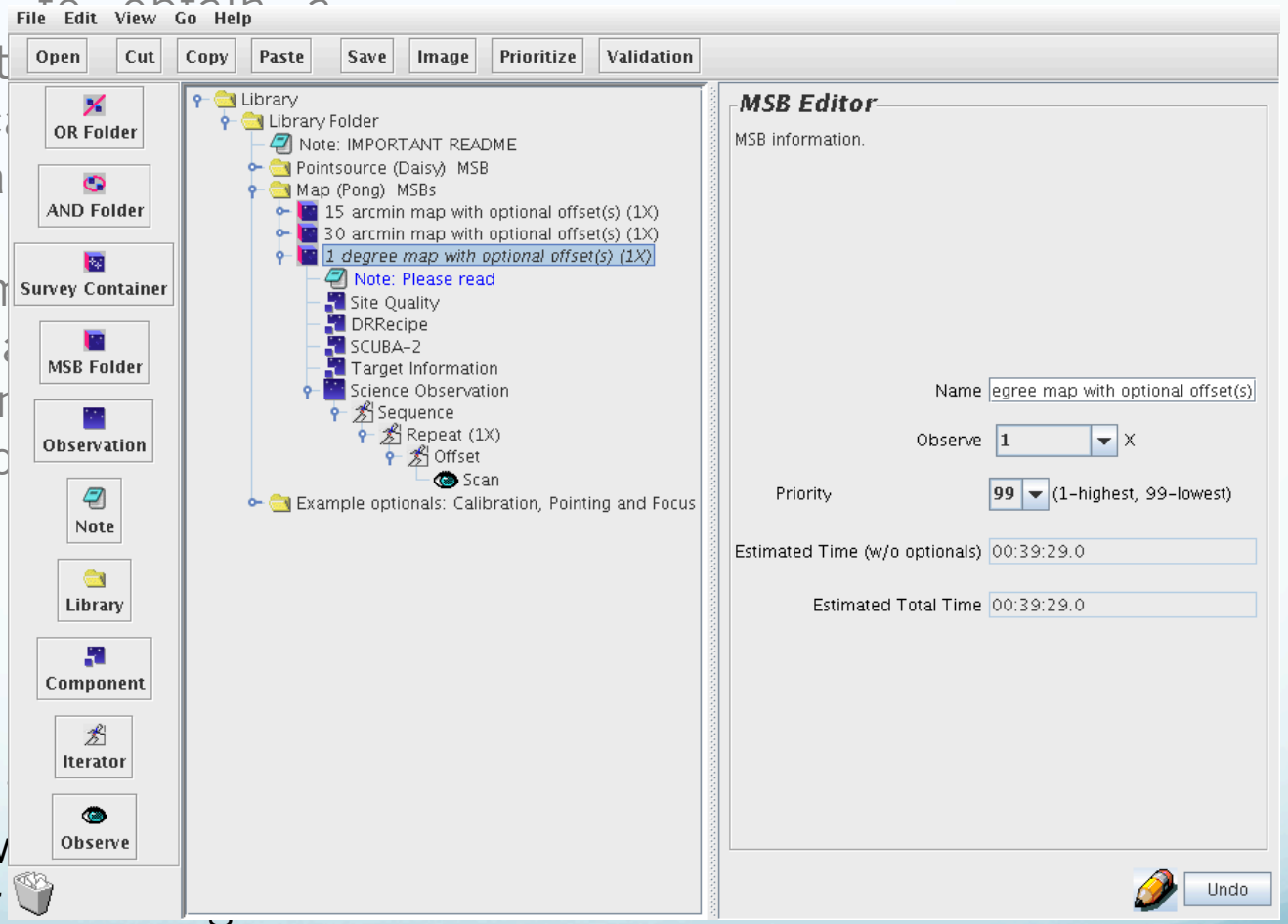
Search for an appropriate msb you can use as a template:



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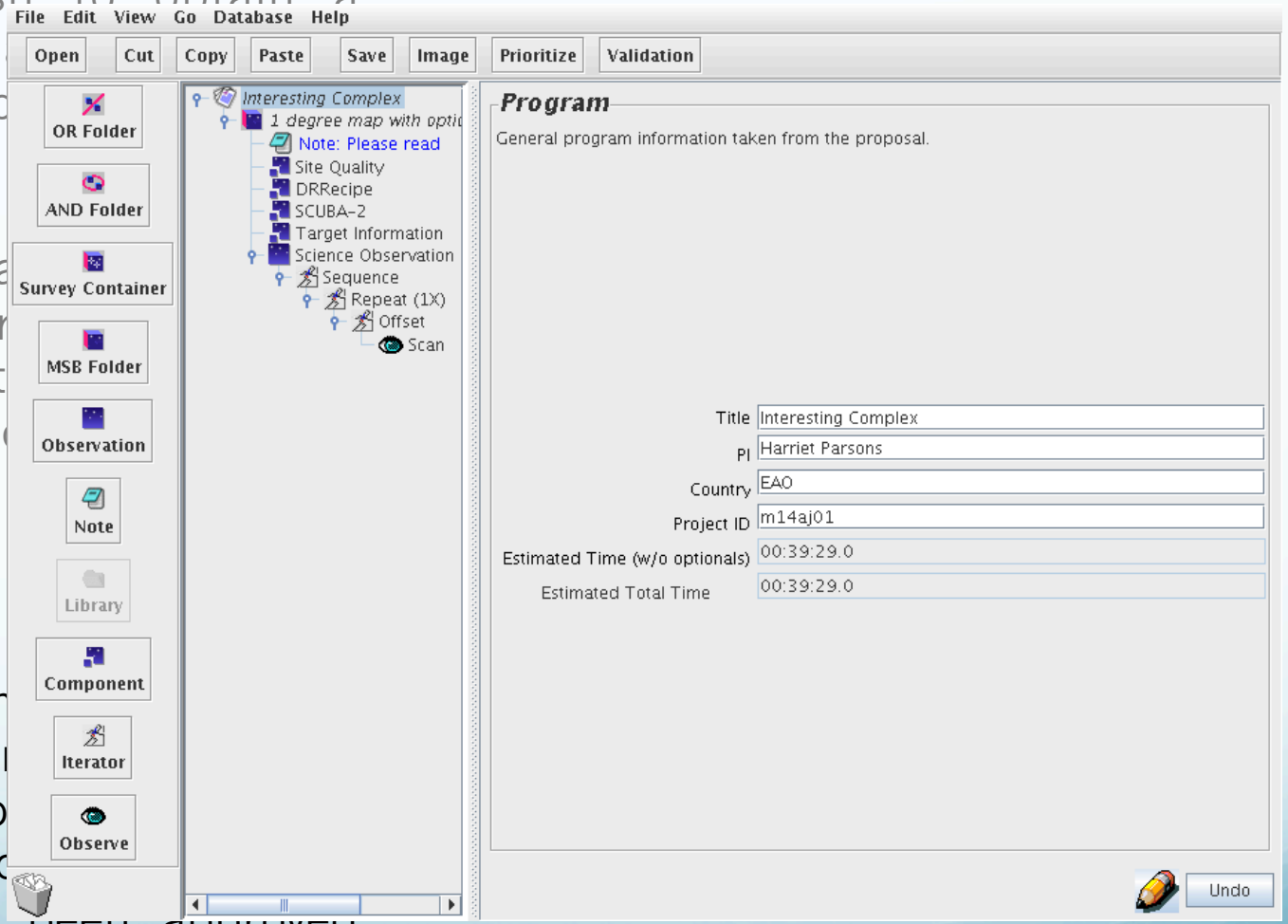
Copy template into your own project and fill in top level details:



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Feedback:

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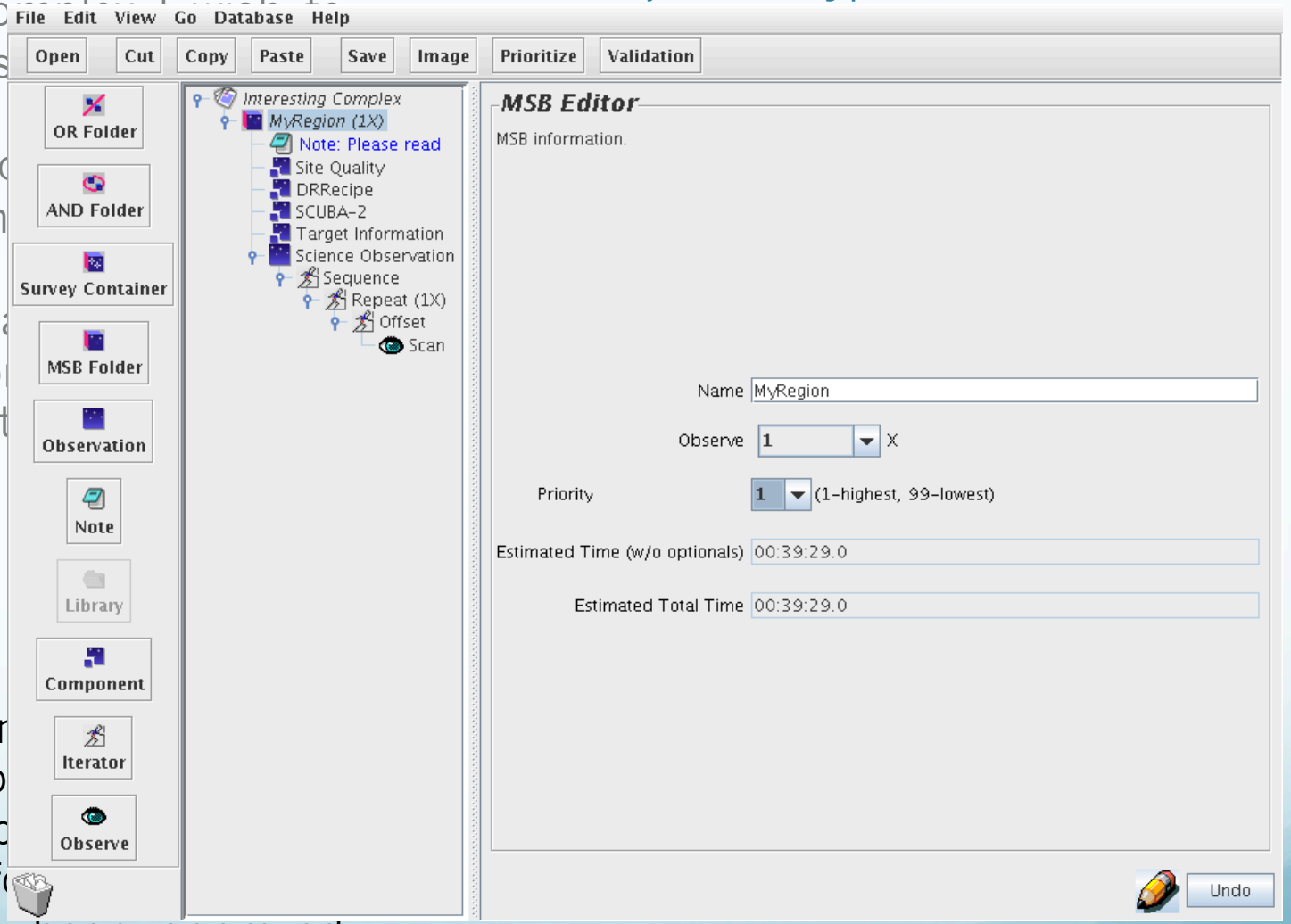
Create name – useful if multiple objects or types of observations:



Example 1: SCUBA-2

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The complex is large and a degree in Pong 3600 region.

Feedback:

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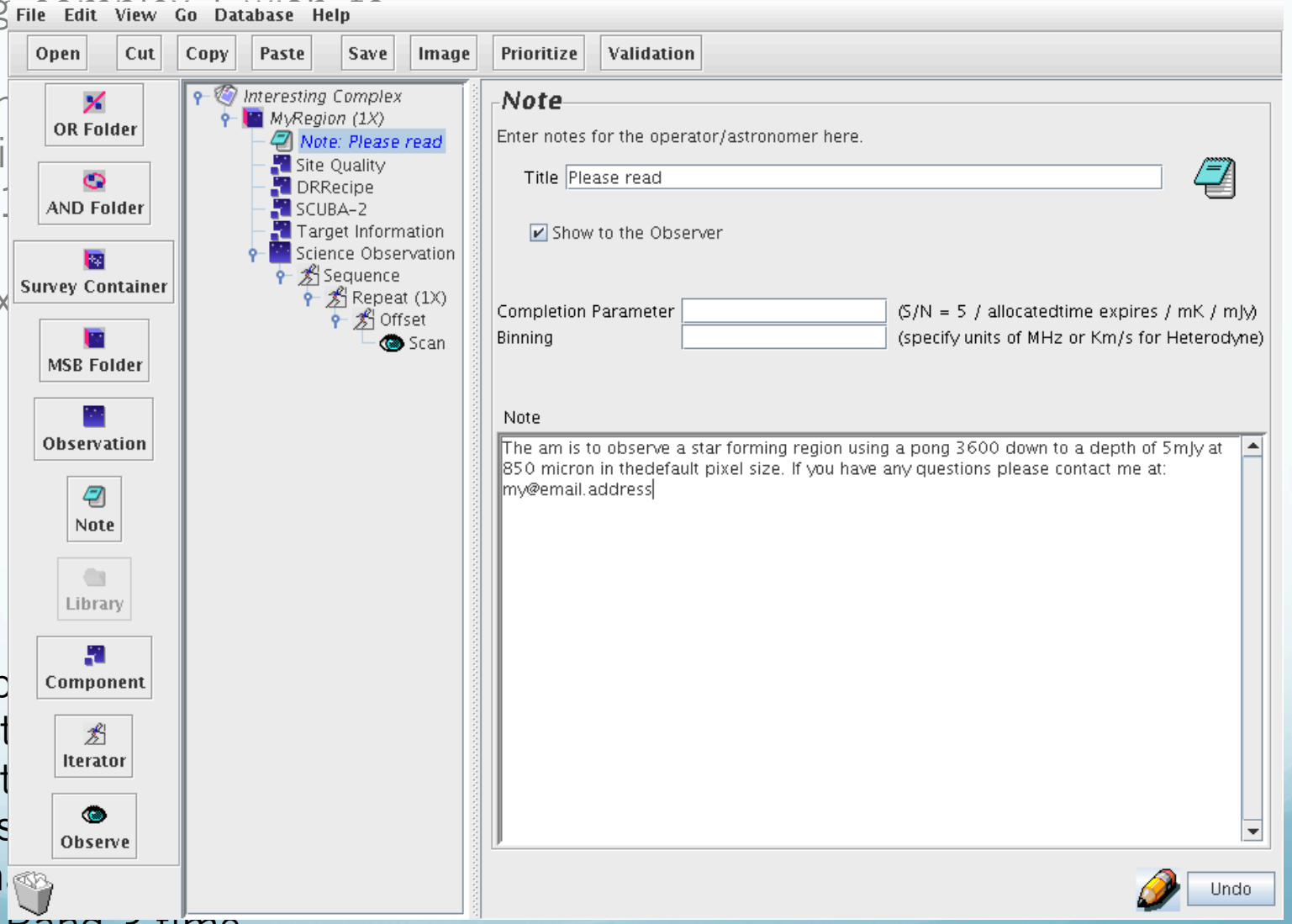
Create a note for the Telescope Operator – to assist with observing:



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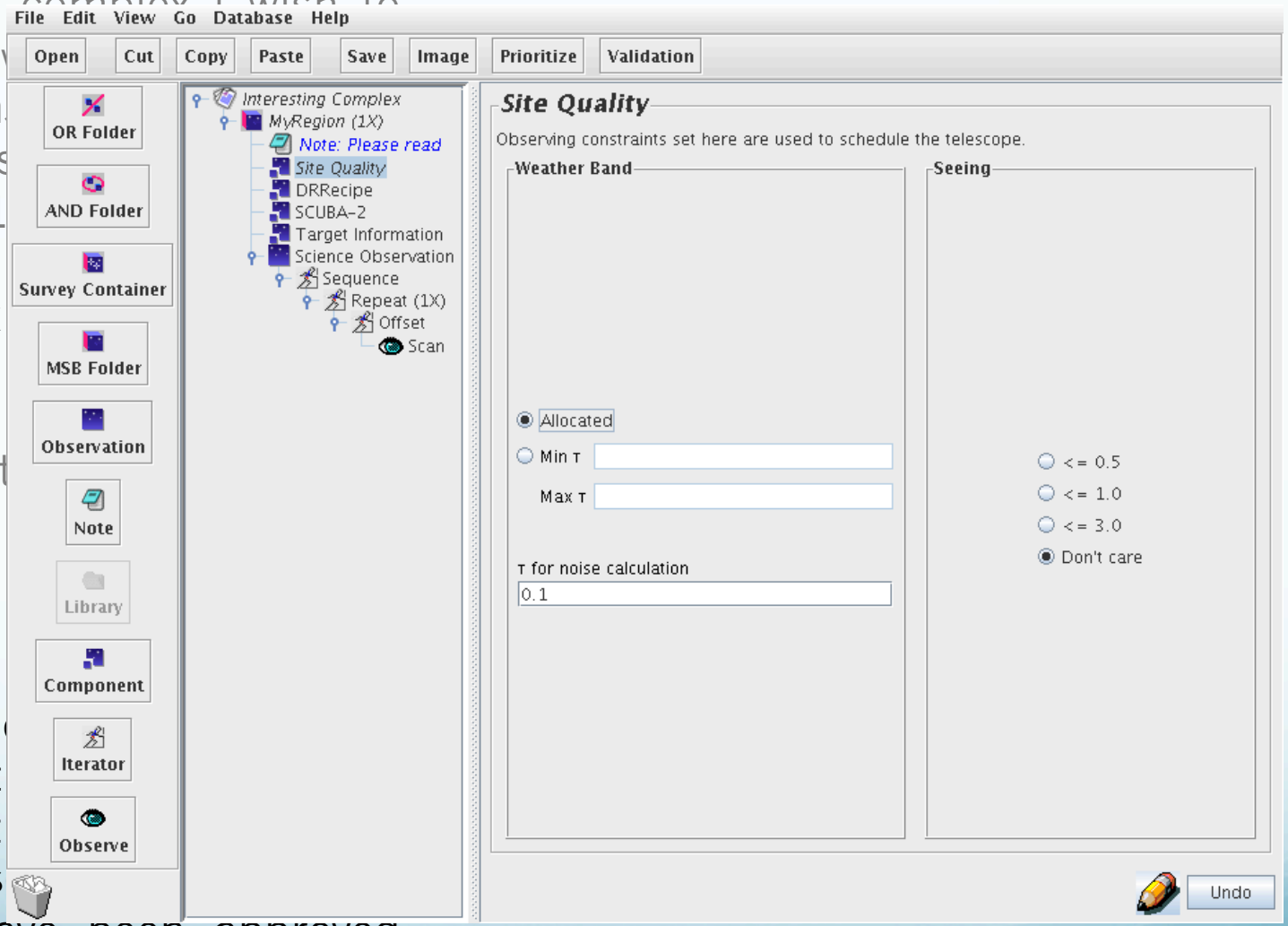

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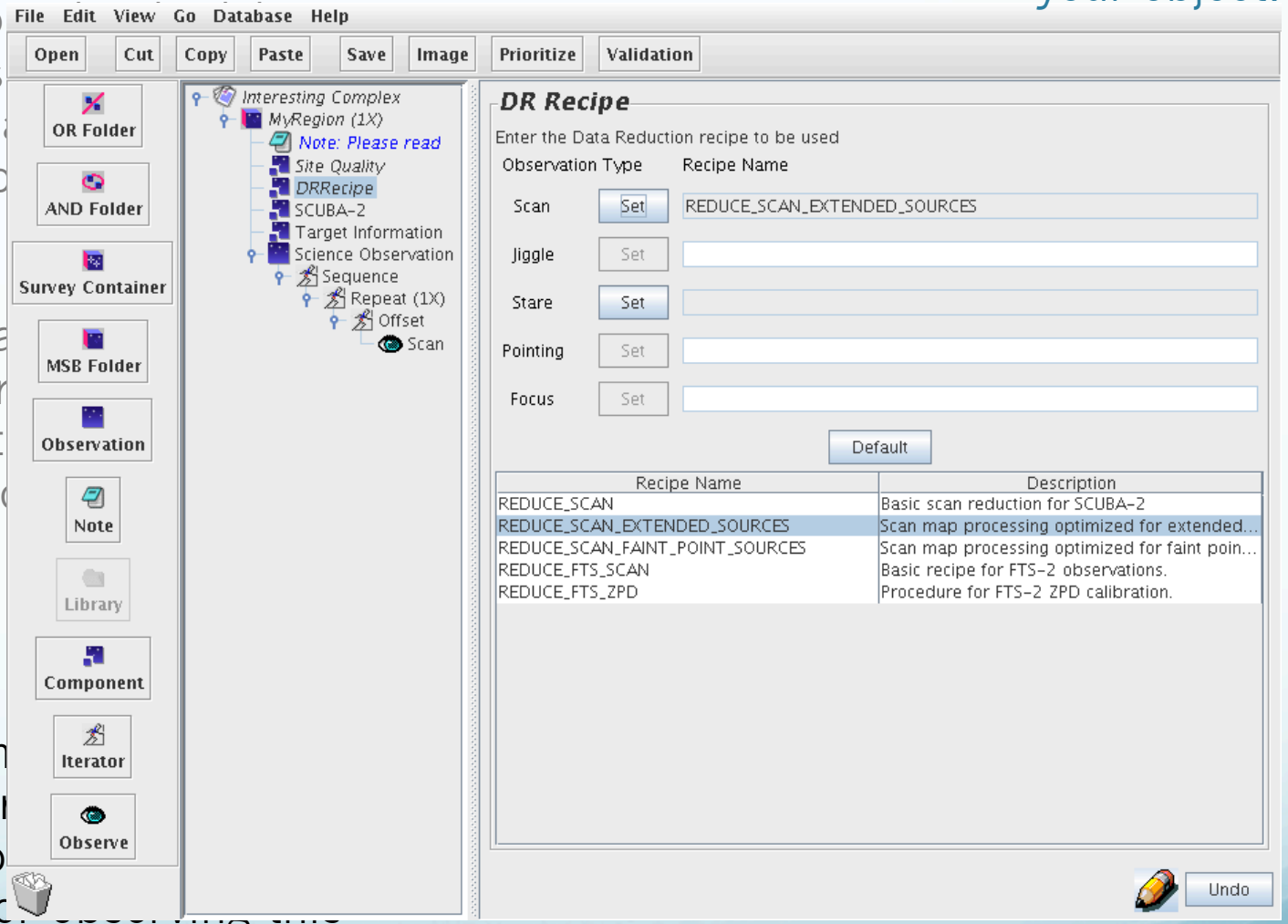

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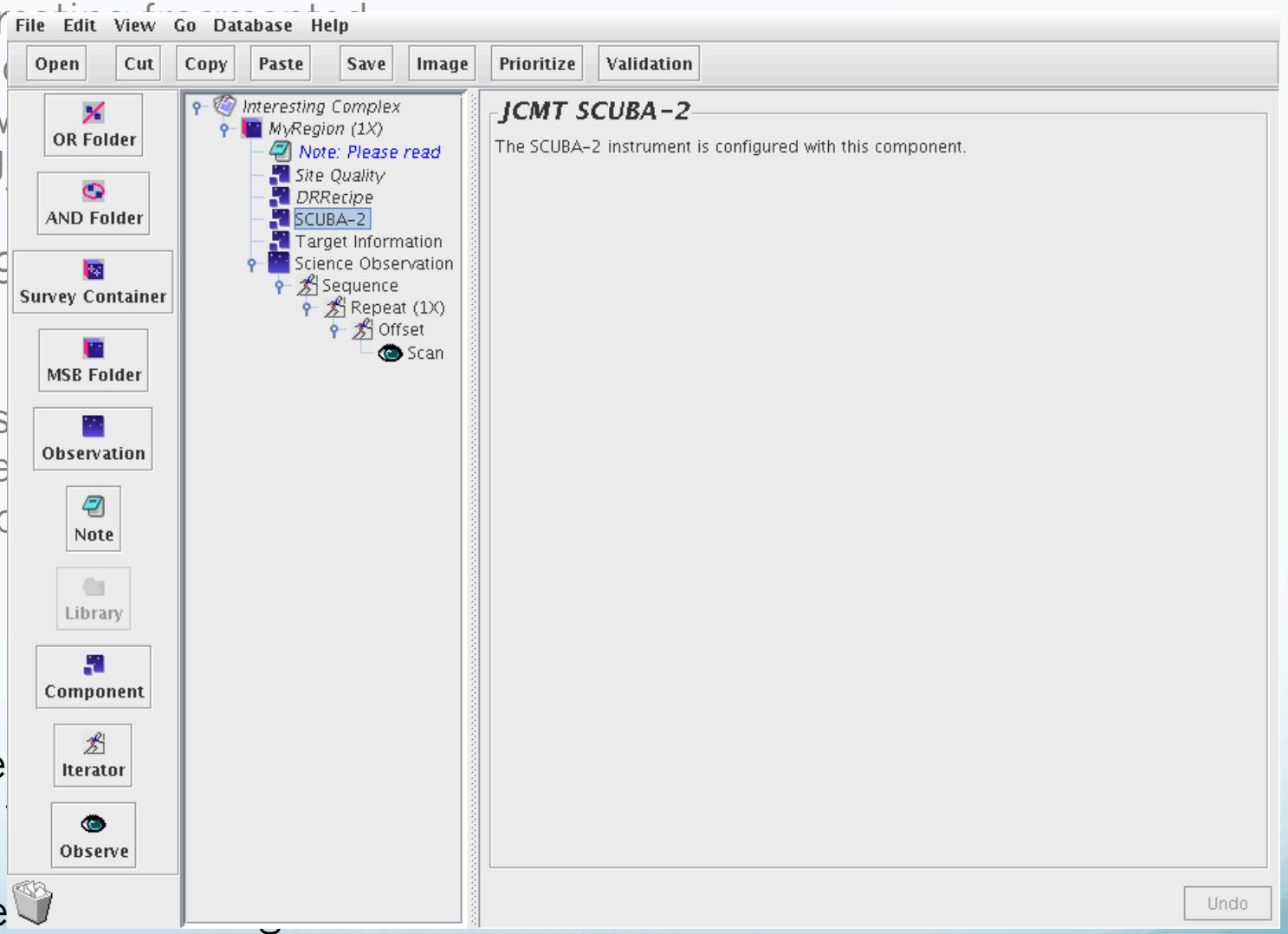

Example 1: SCUBA-2

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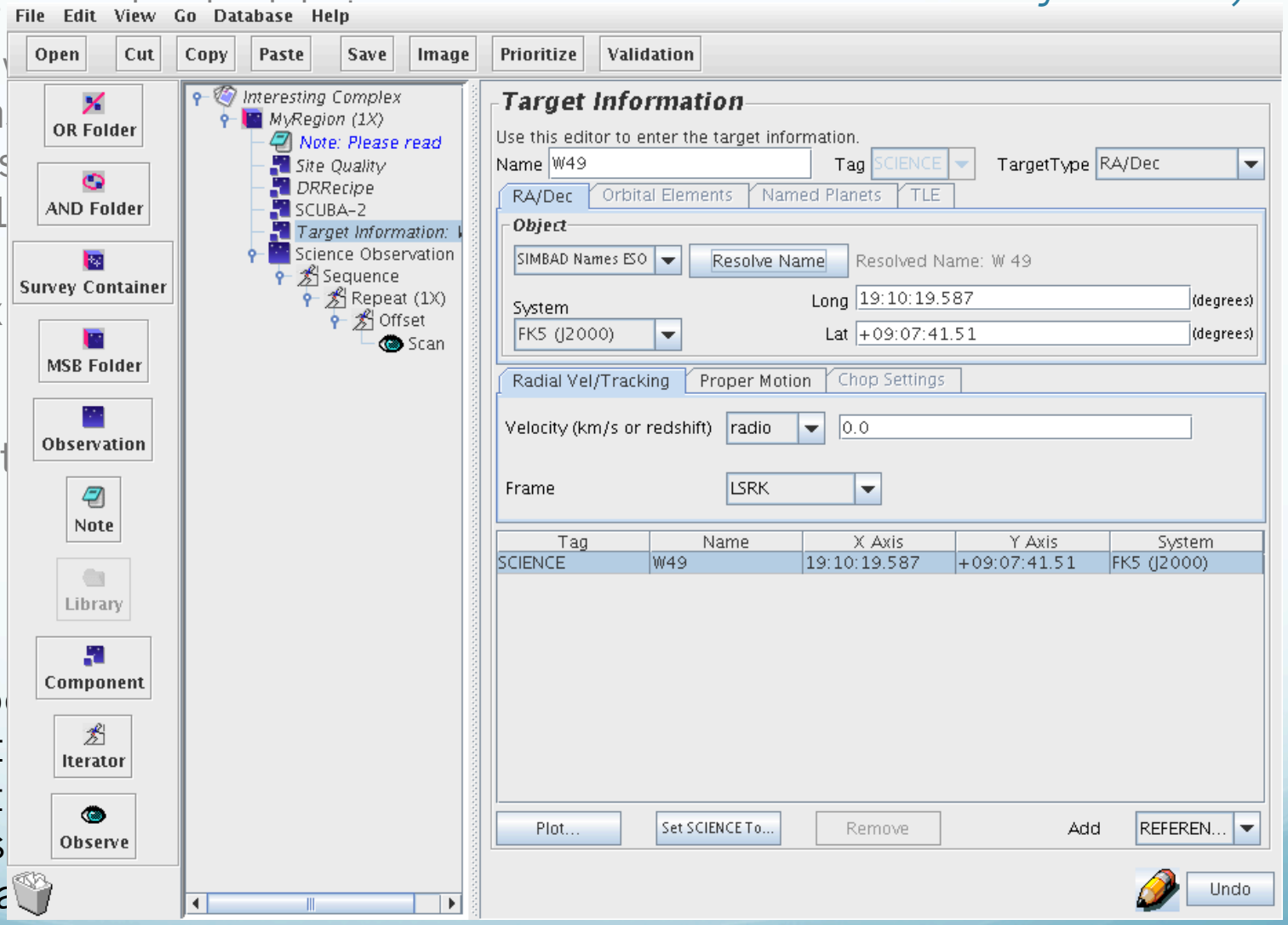
Fill in object details (name can be resolved by SIMBAD):



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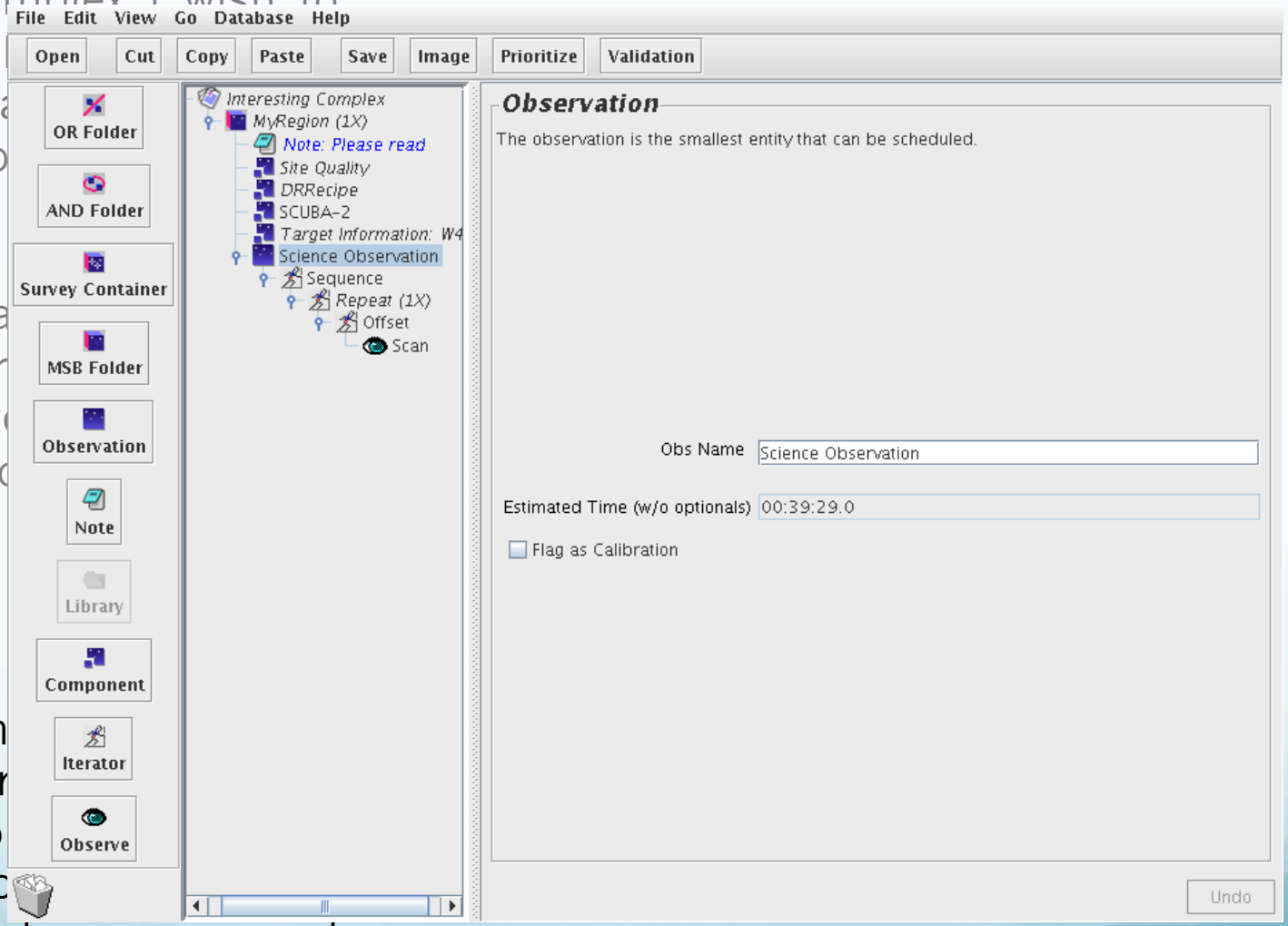

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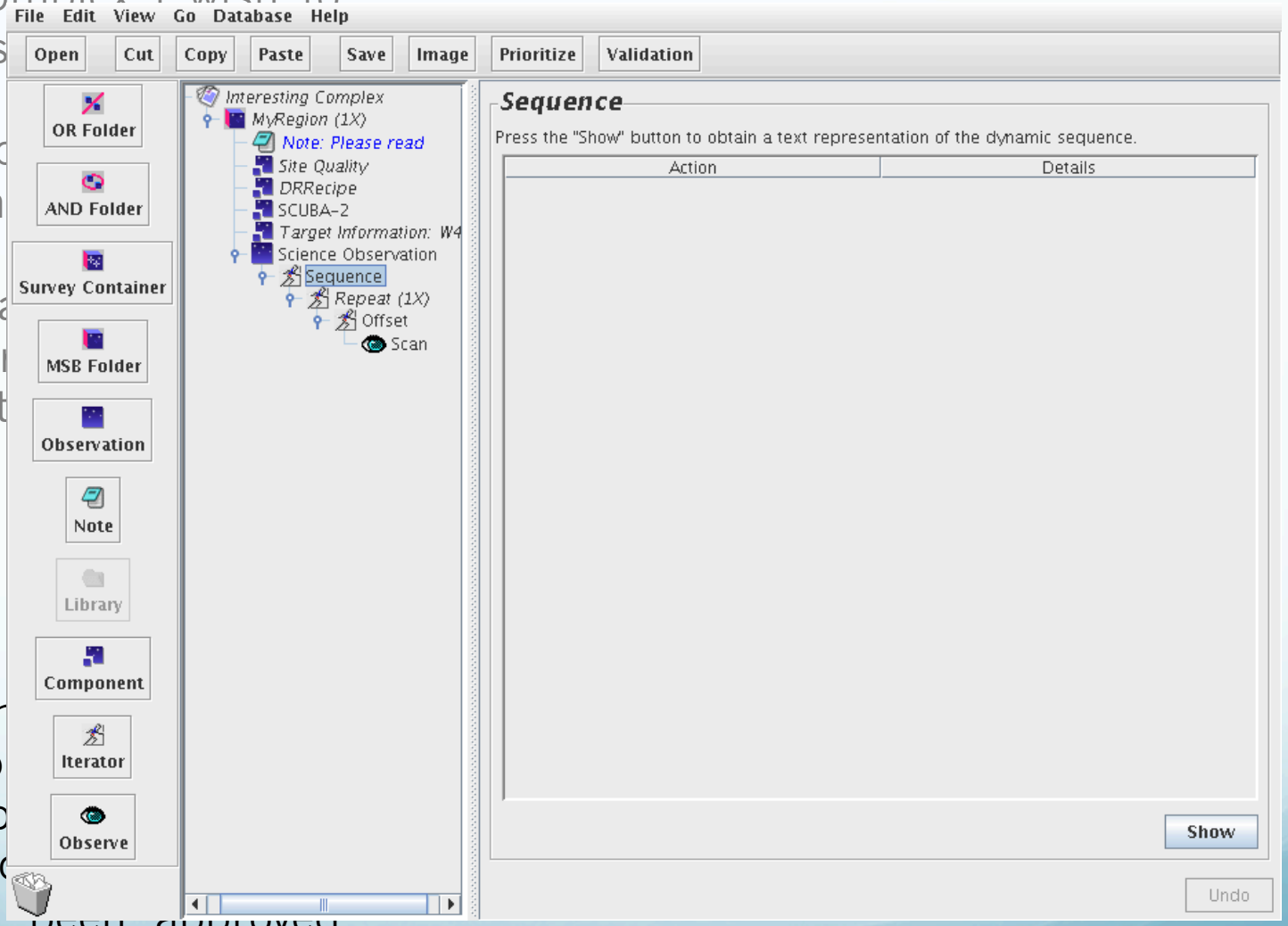

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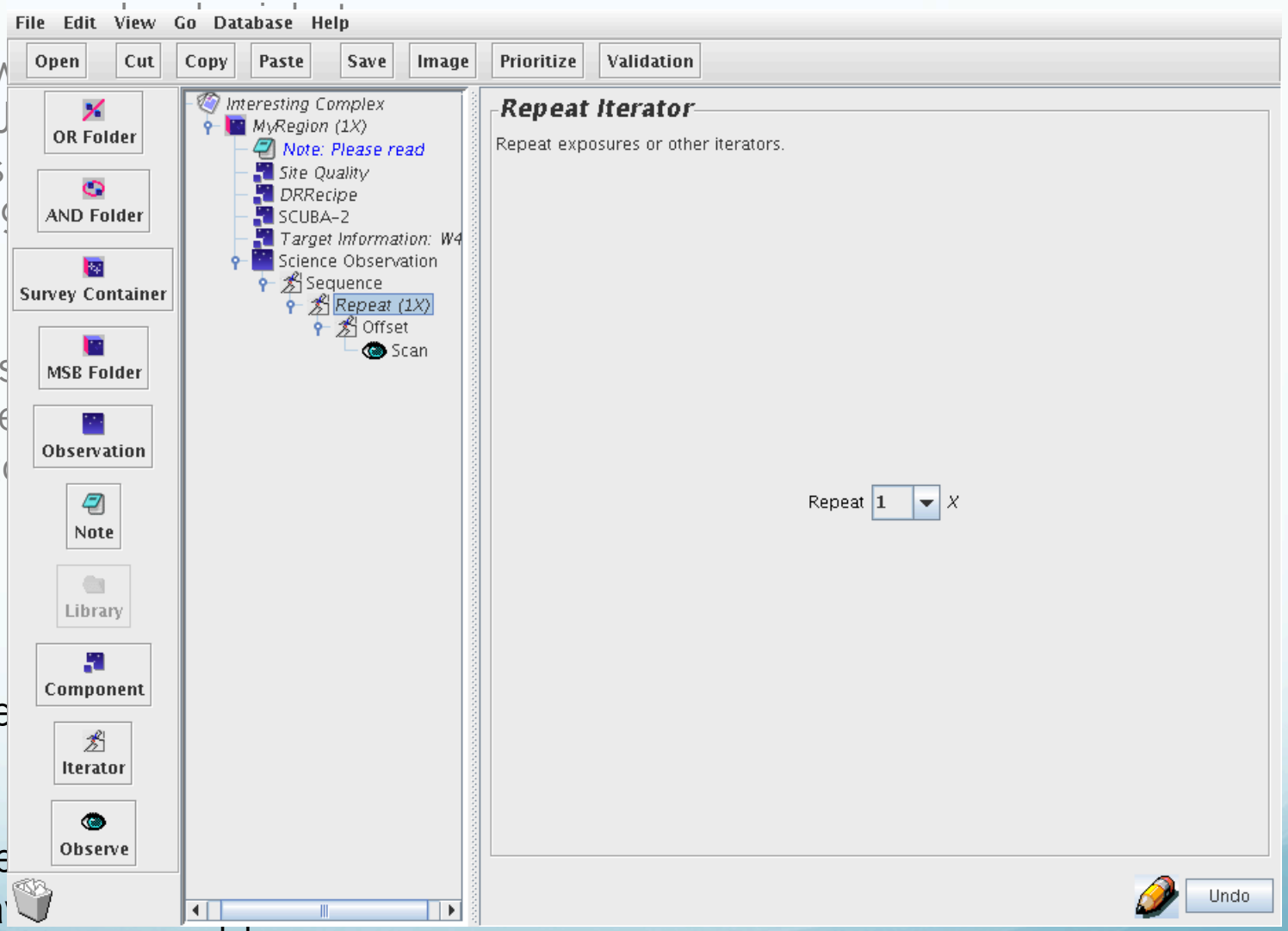

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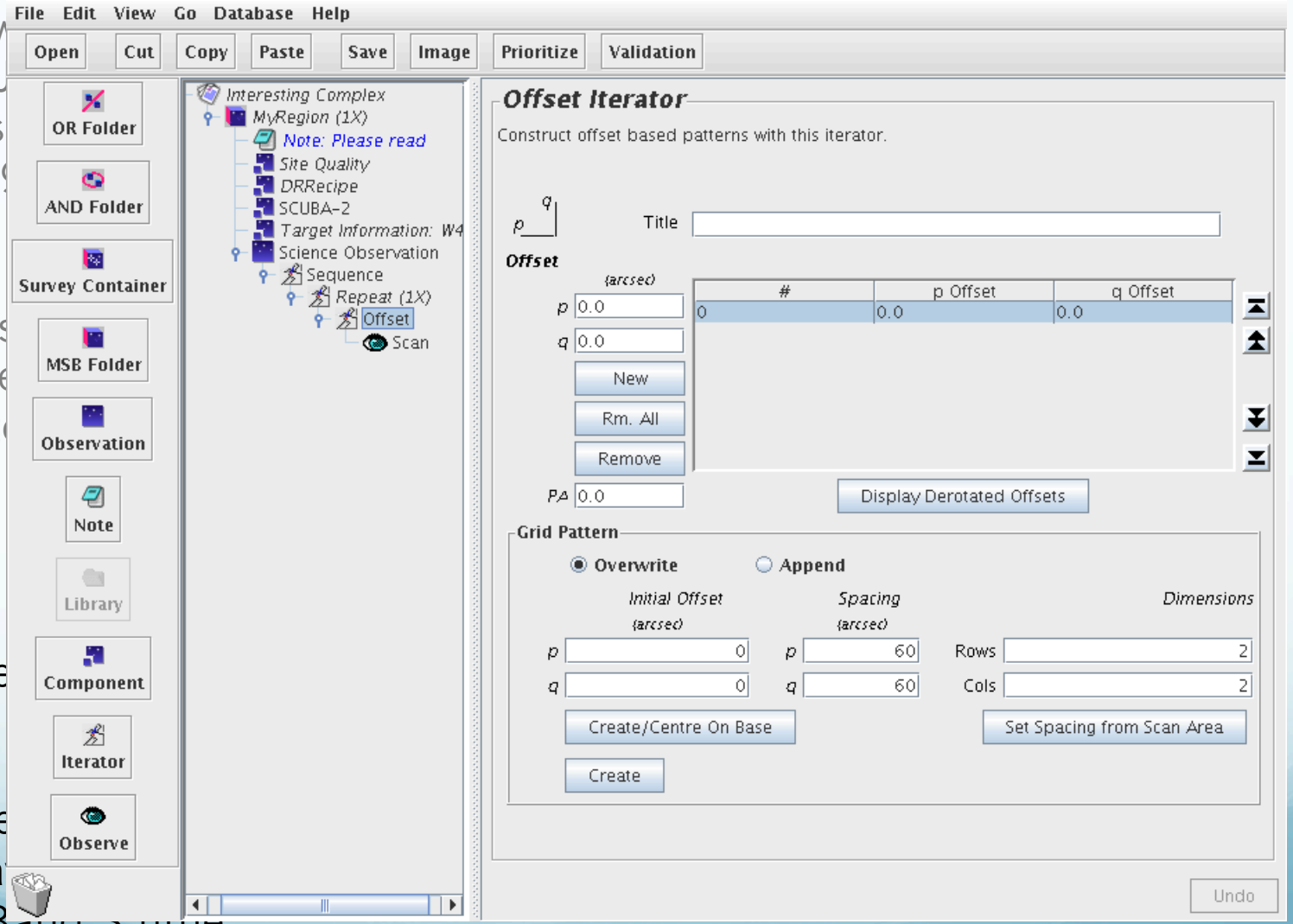

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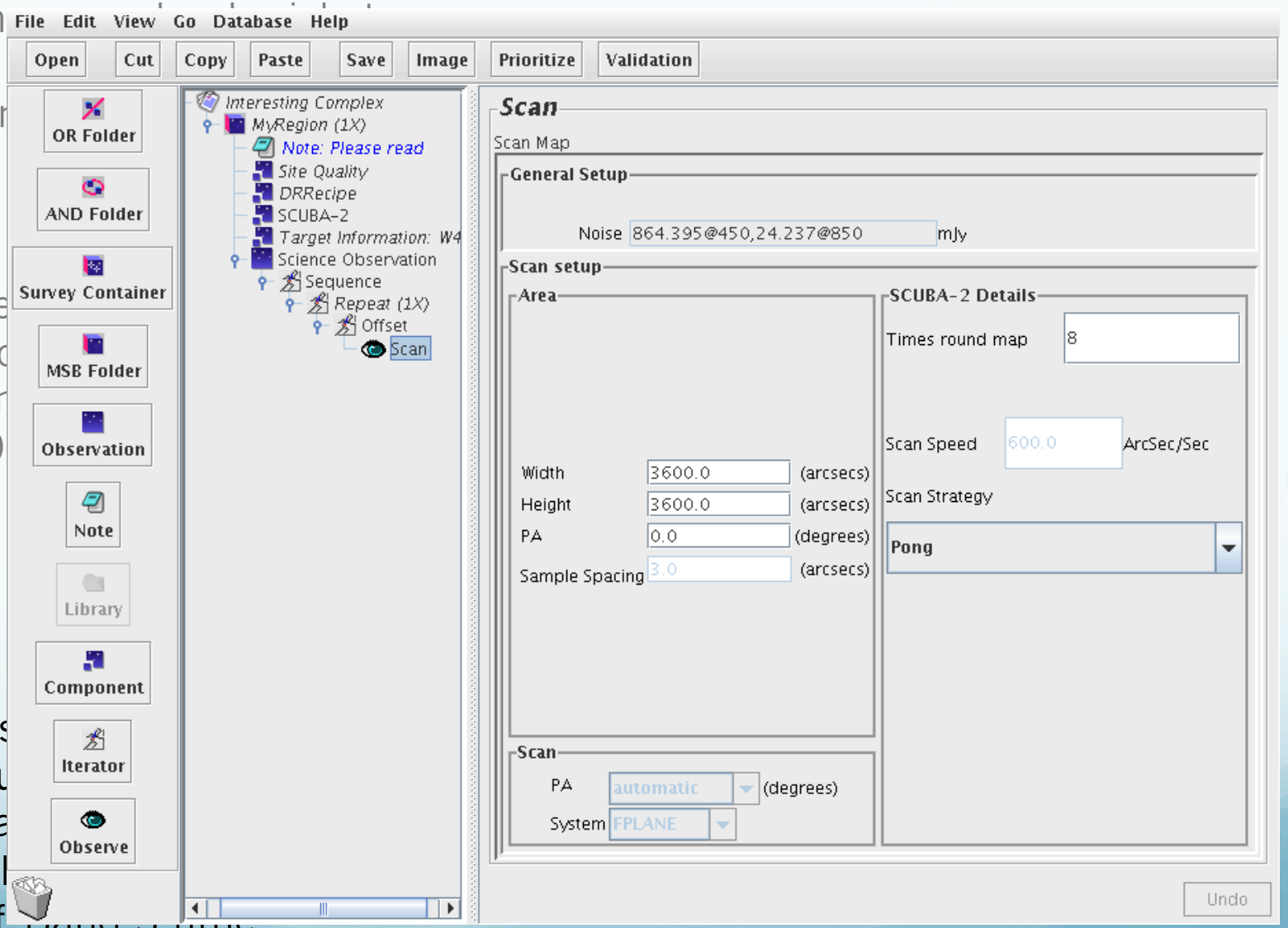

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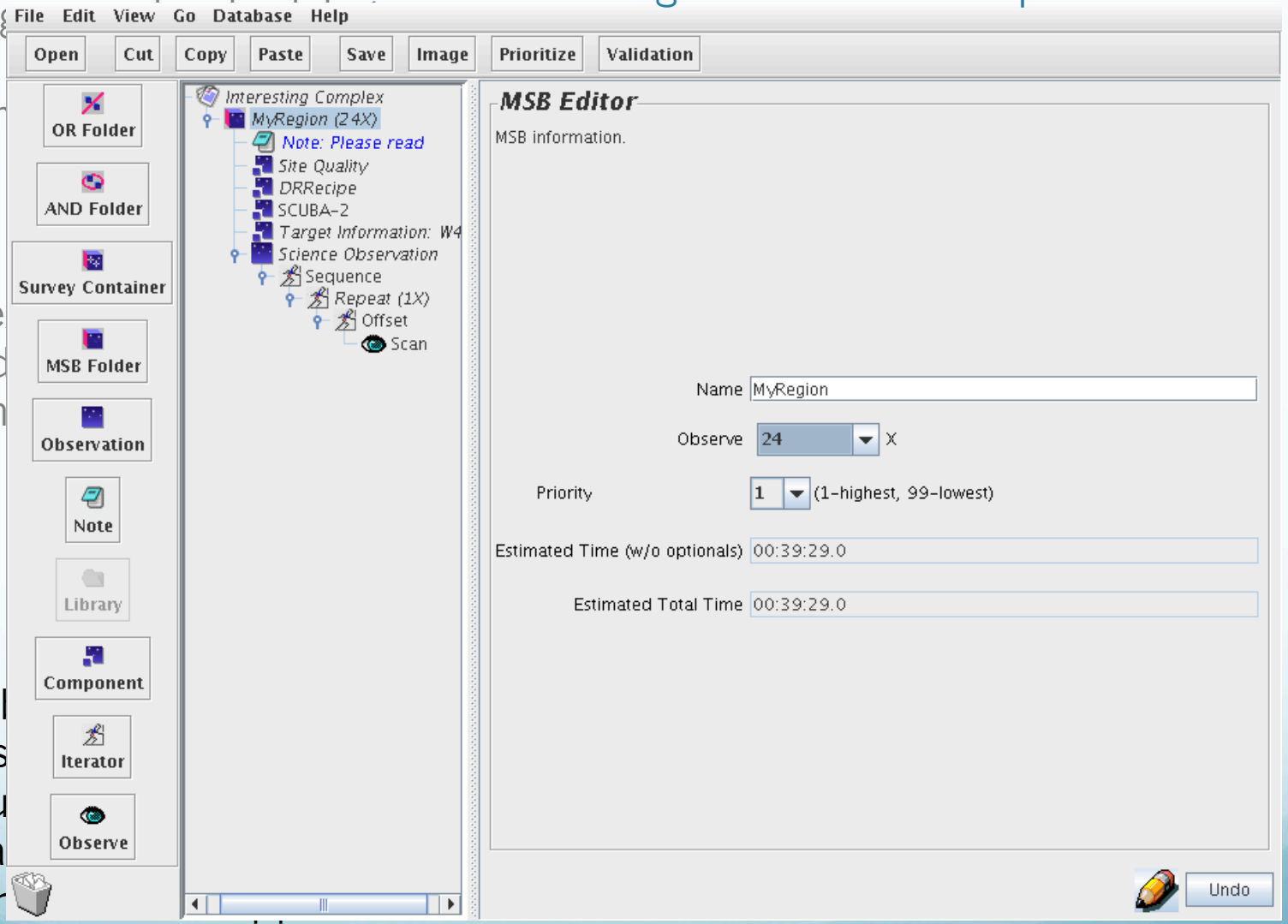

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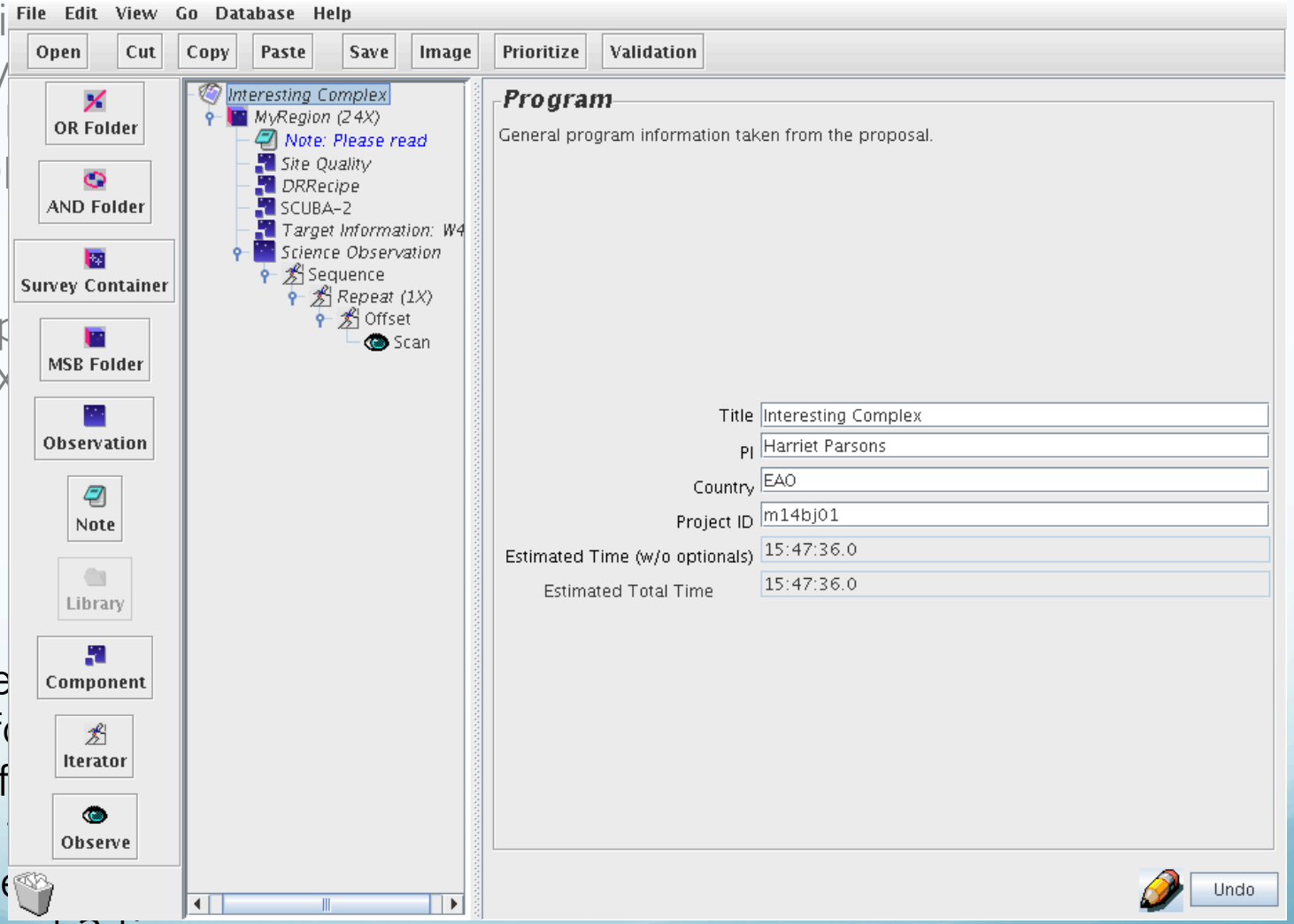

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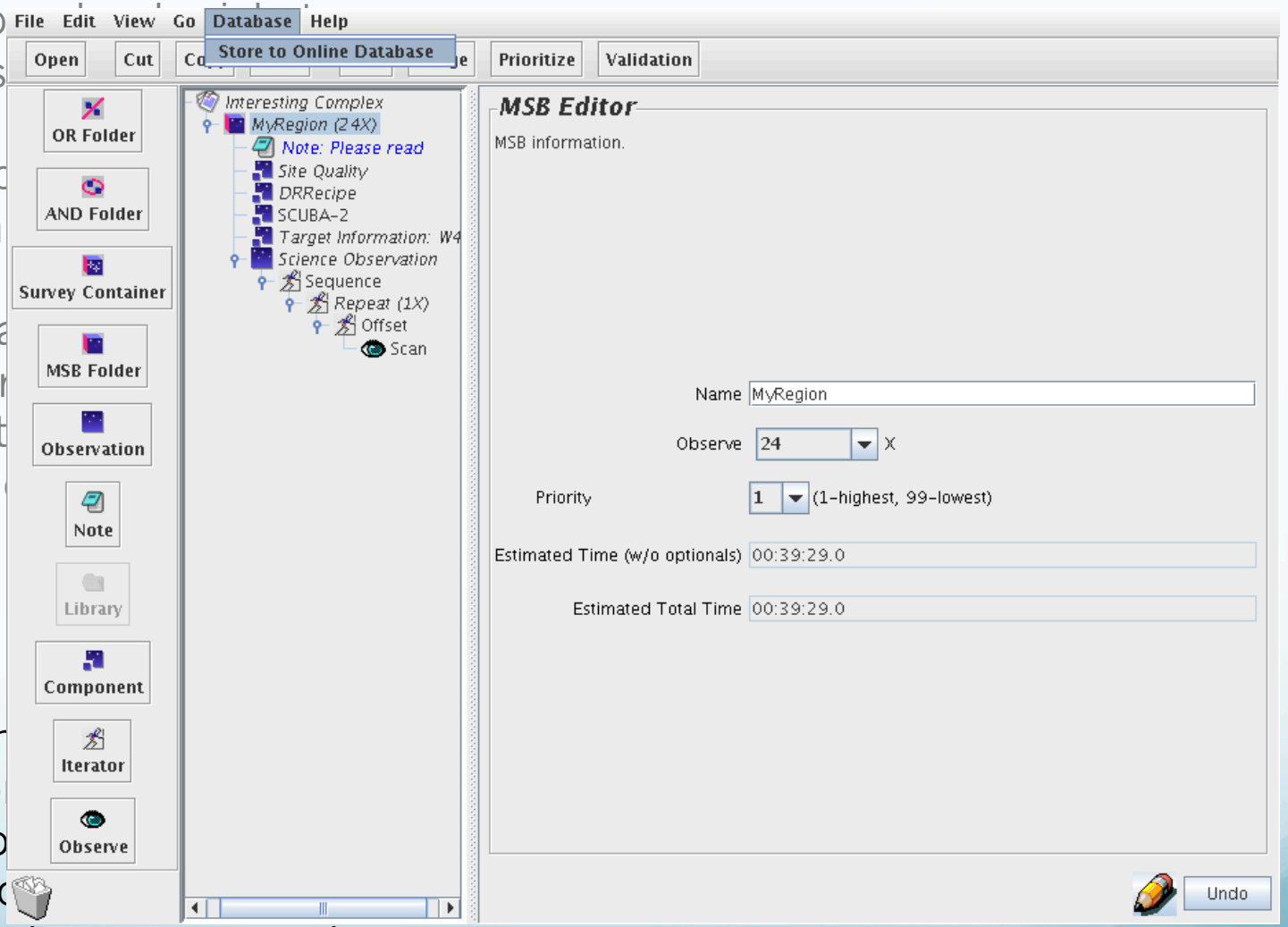
Store to online database:



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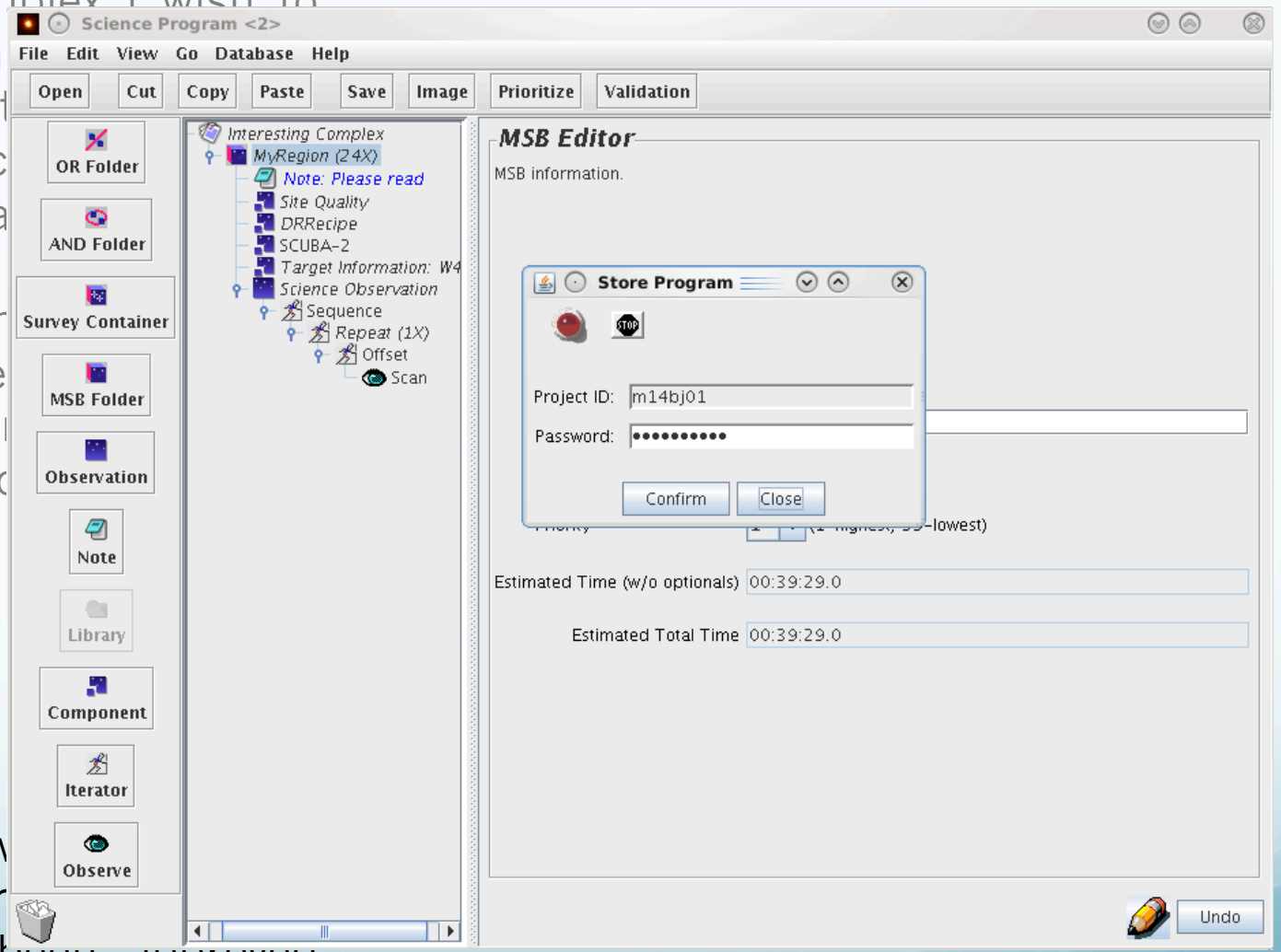
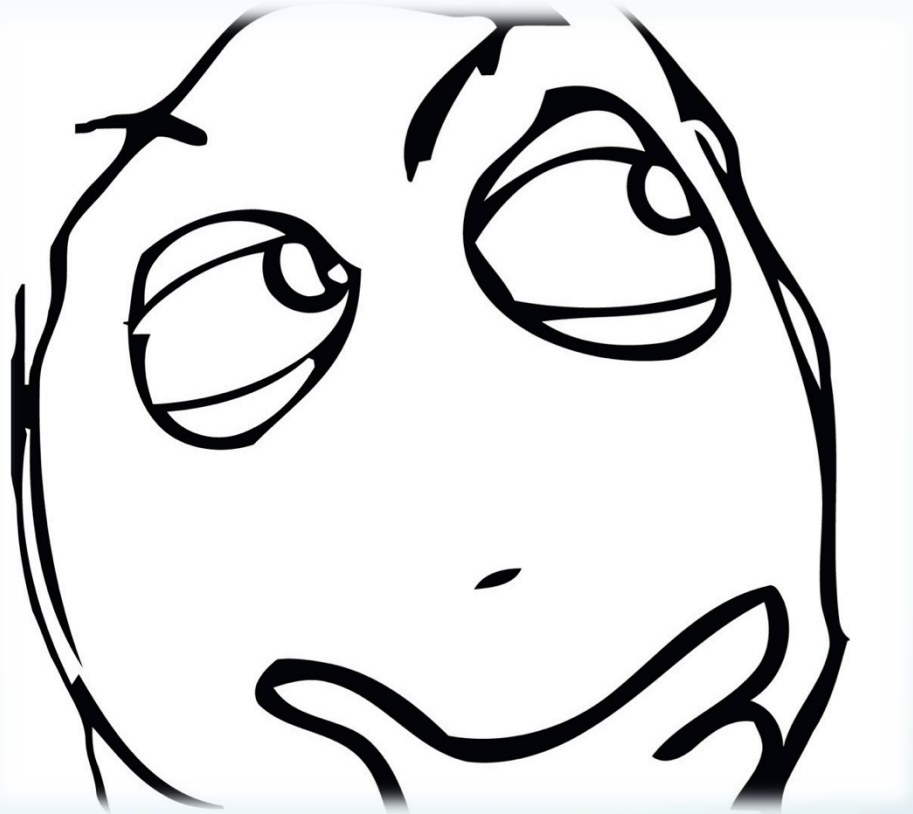


Example 2 – SCUBA-2 – multi object

I have a collection of 50 SMG's at a redshift of z=4. I wish to observe them at both 450 and 850 microns. I need to achieve a depth of between 3.5 and 4.5 mJy/beam at 850 microns.

The SMG's either have Declinations around: -32° (in the SGP, 38 in total) or Declinations around +30° (in the NGP, 12 in total).



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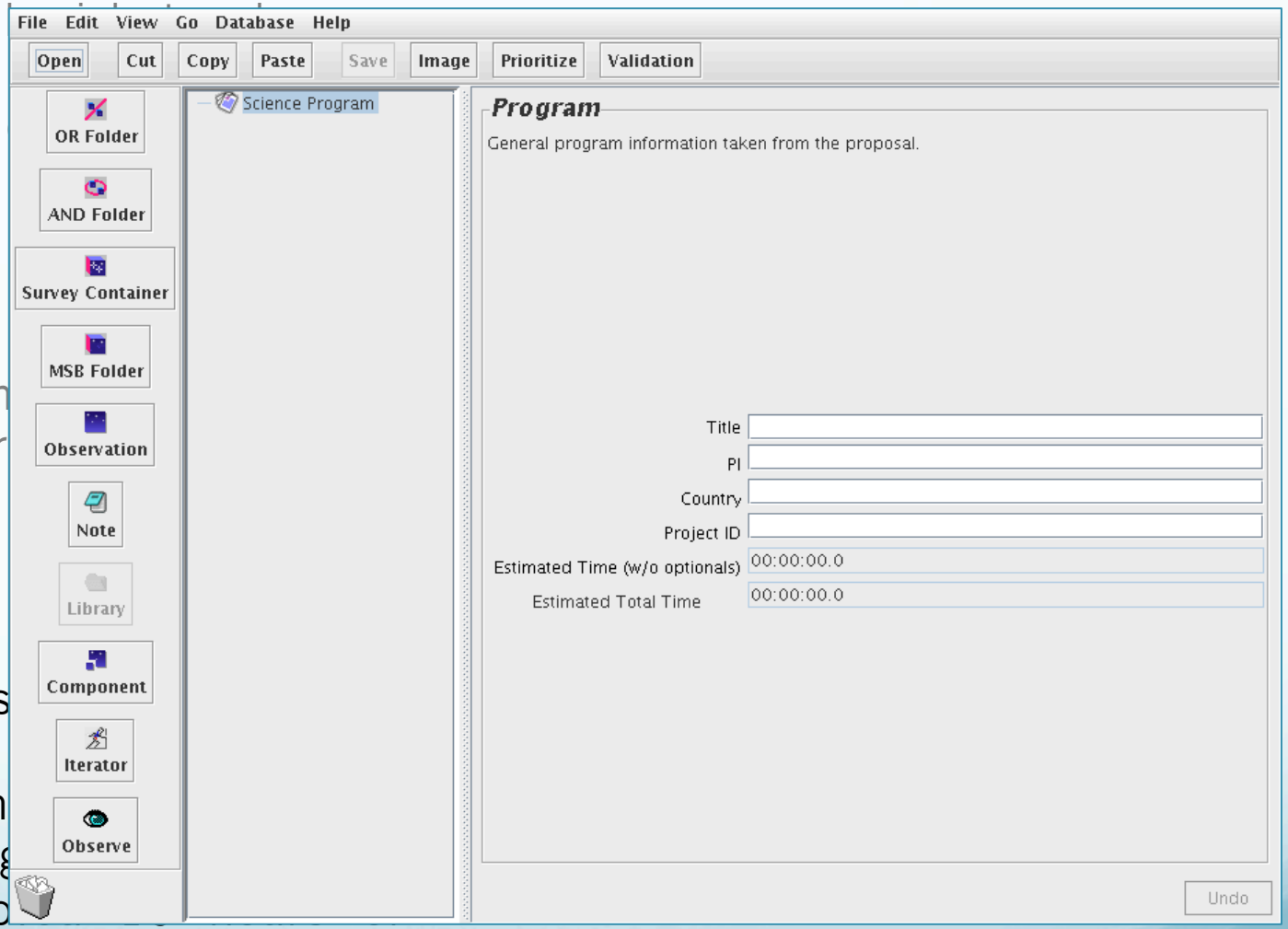
Create New Project:



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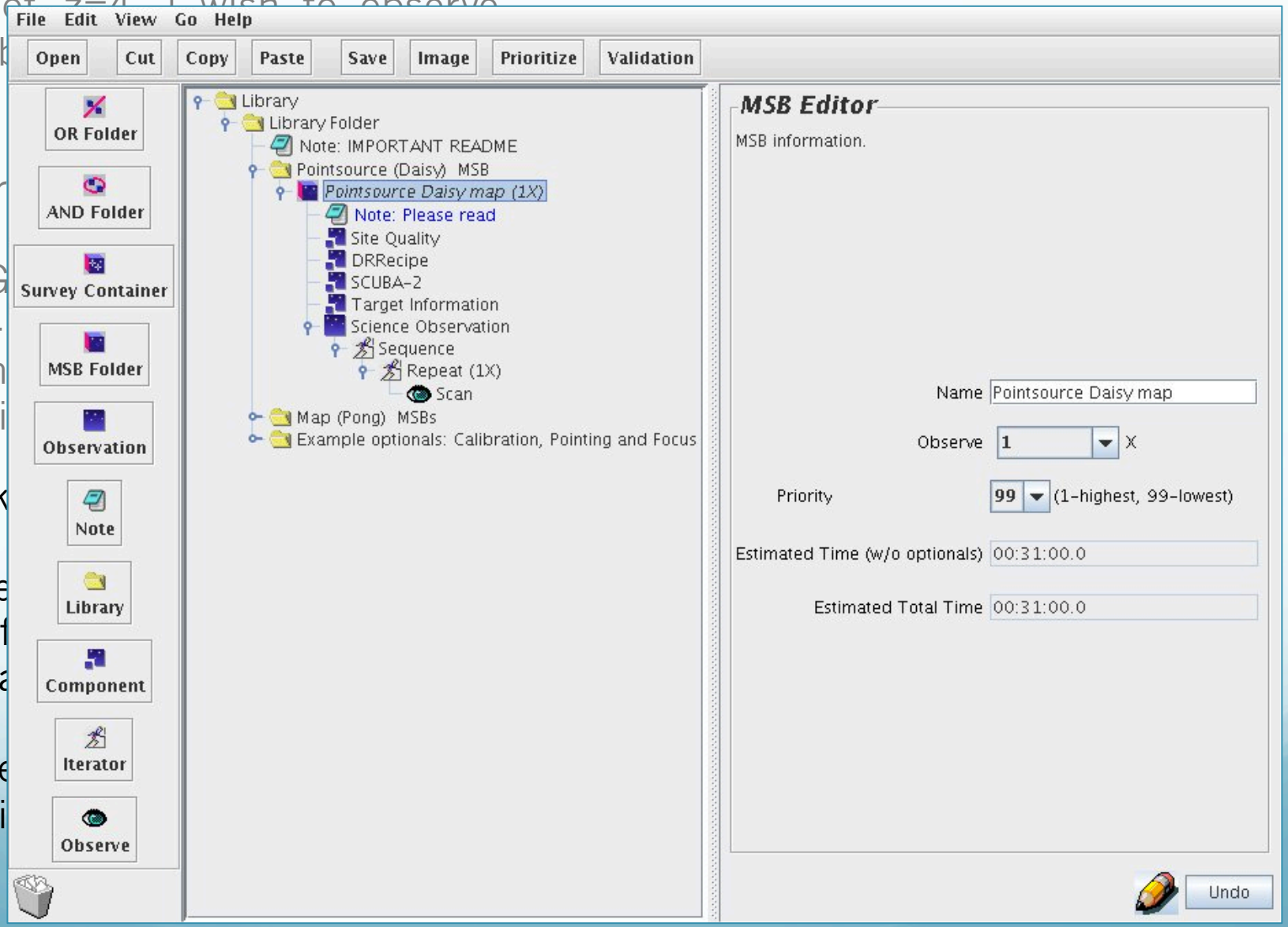

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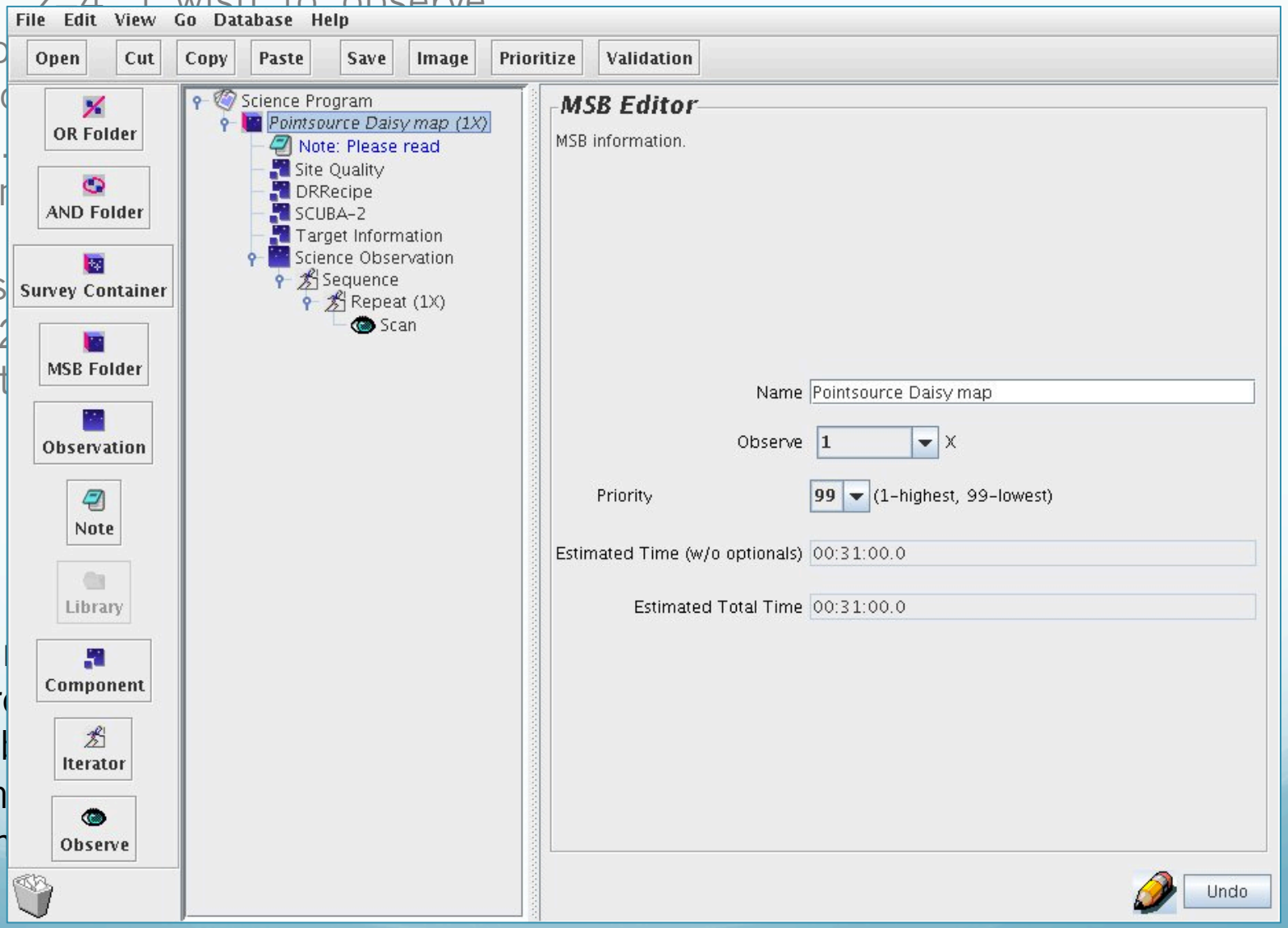

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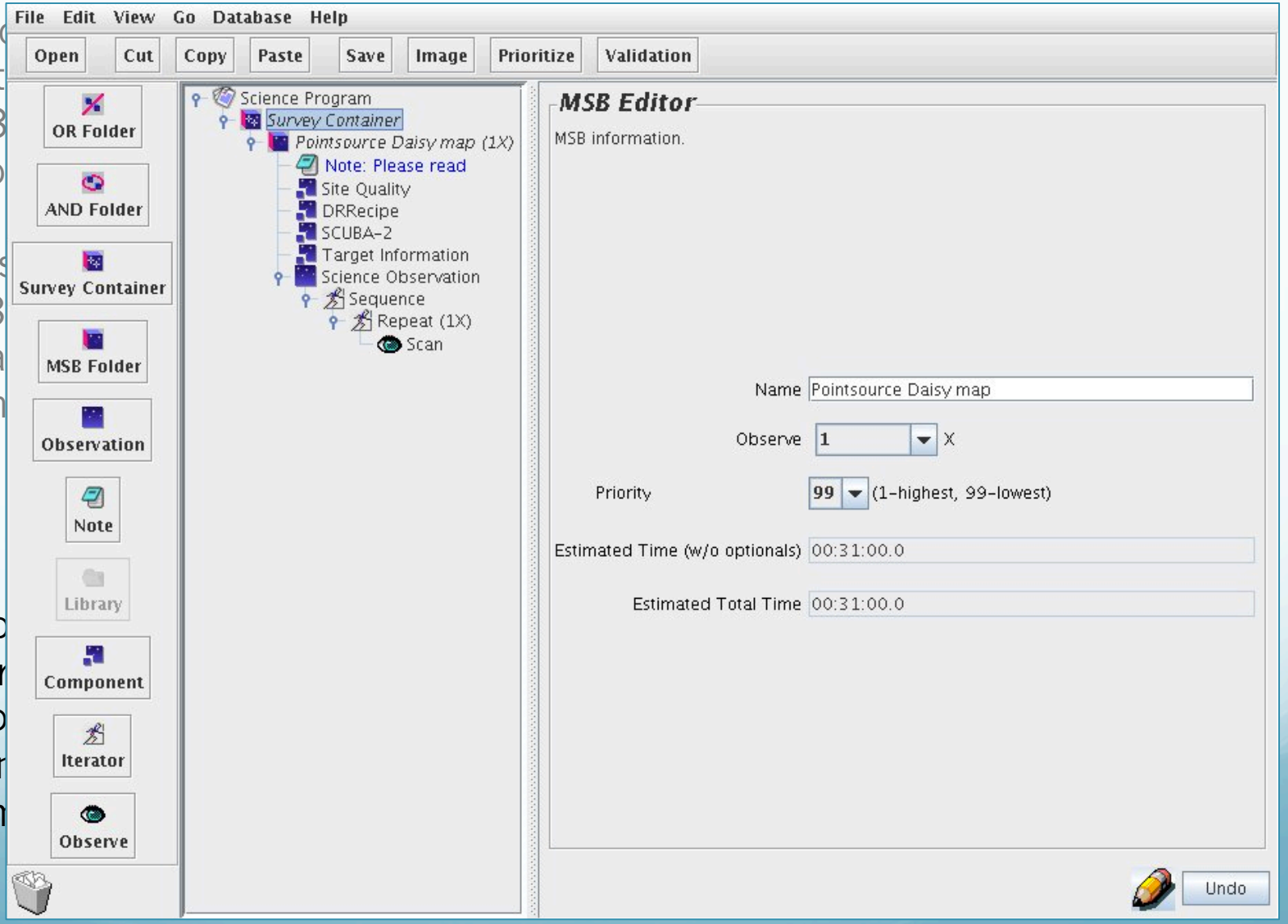

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Feedback:

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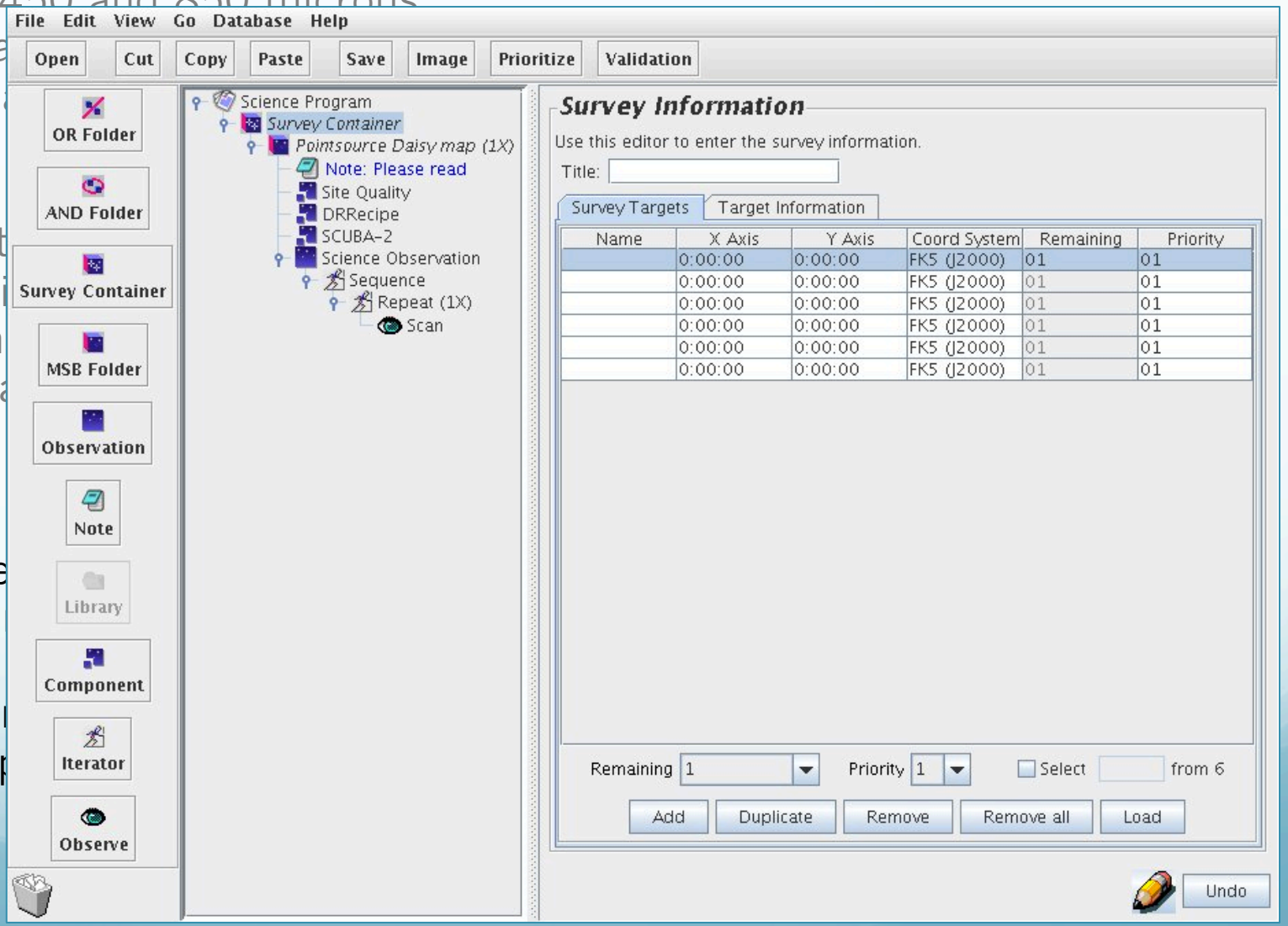
Remove the 'usual' target information and add target information to the survey container:



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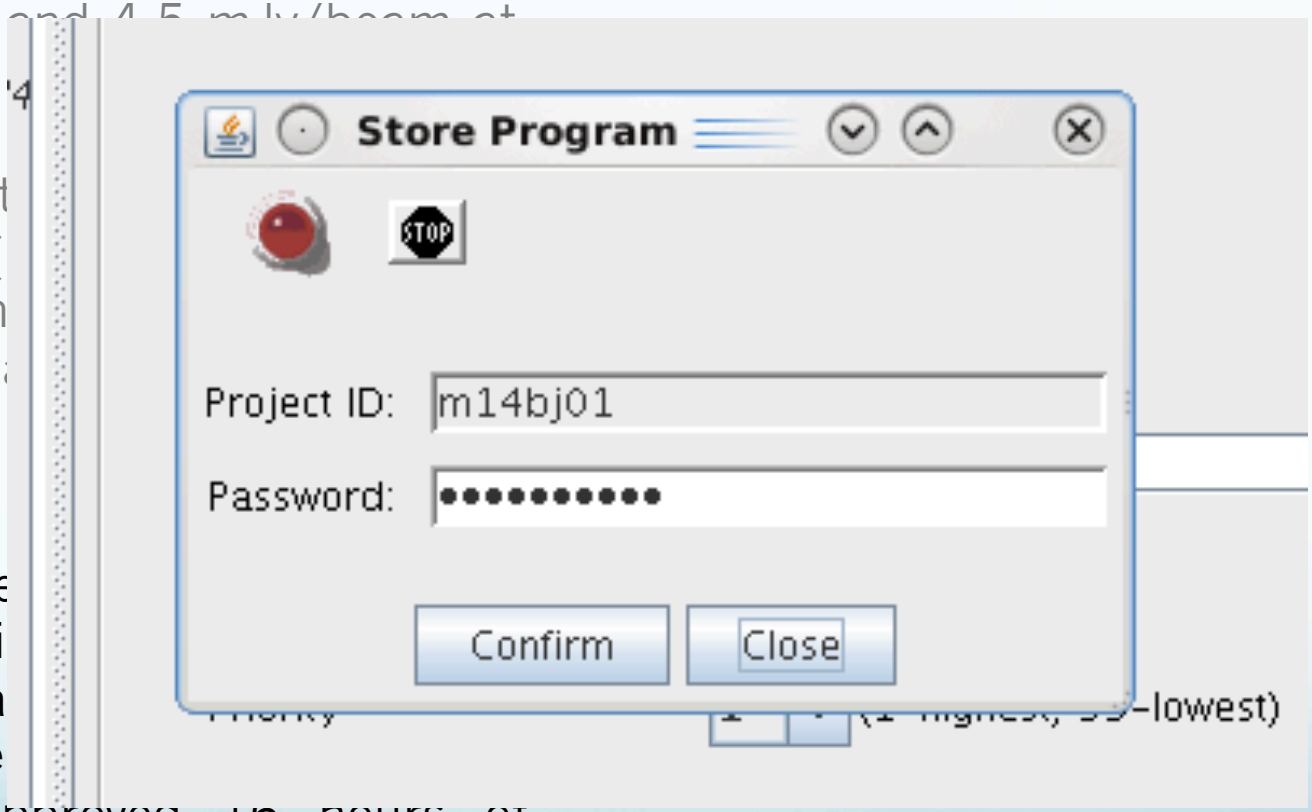
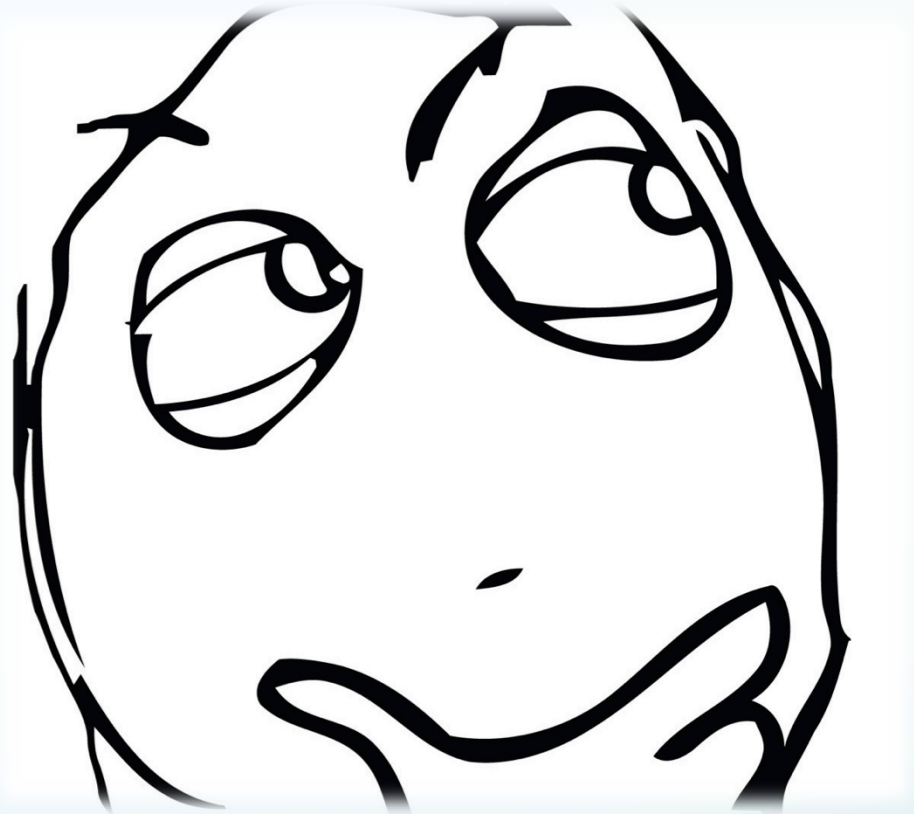
Complete the rest of the msb in a similar way to the previous example. Then store to database and submit:



Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO (3-2) using HARP. The area we wish to observe is 1900” x 1700”. From existing data we expect the lines to be around 10K, with widths of ~4km/s. We therefore request a sensitivity of 0.6K in 1km/s bins.



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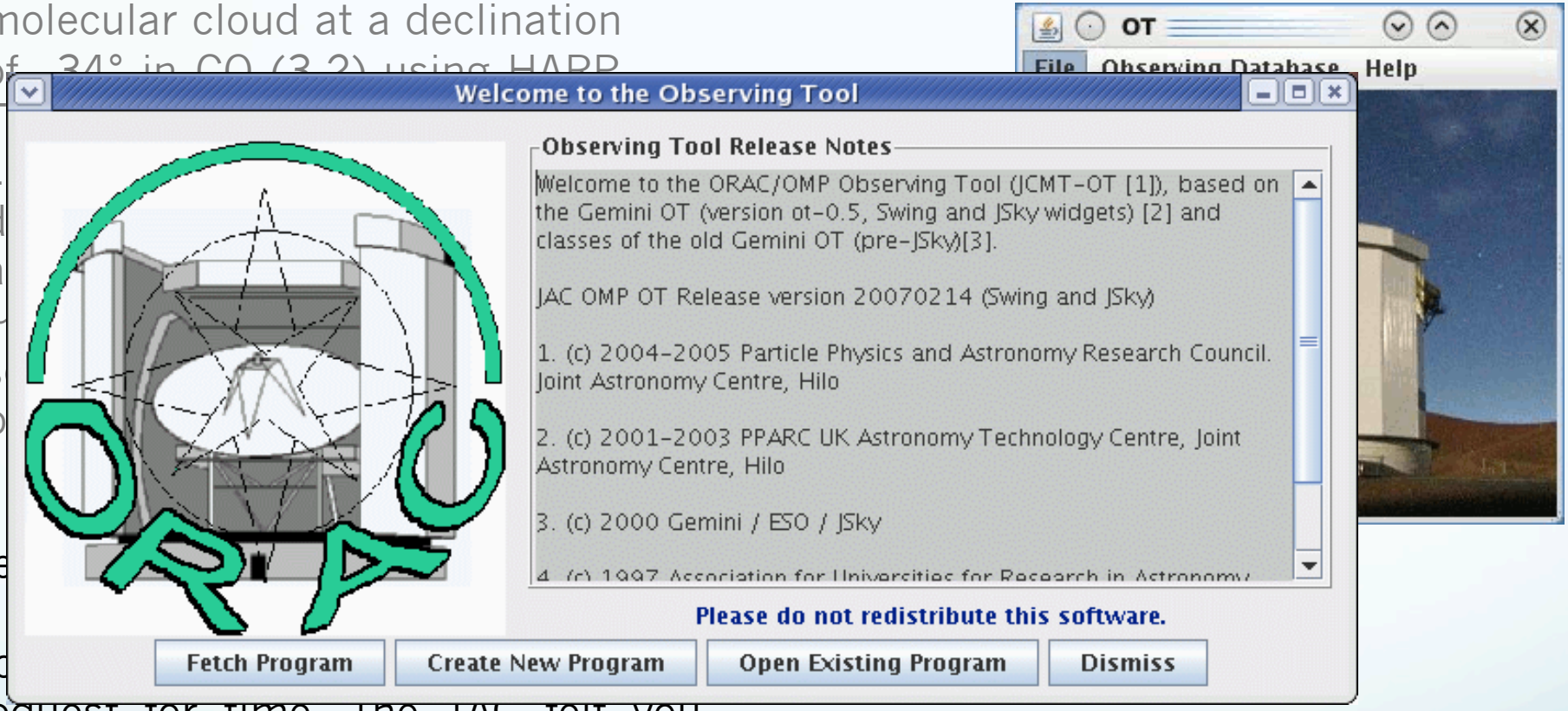

Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO (3-2) using HARP. The area we wish
1900” x 1700”.
data we expect t
around 10K, wi
~4km/s. We there
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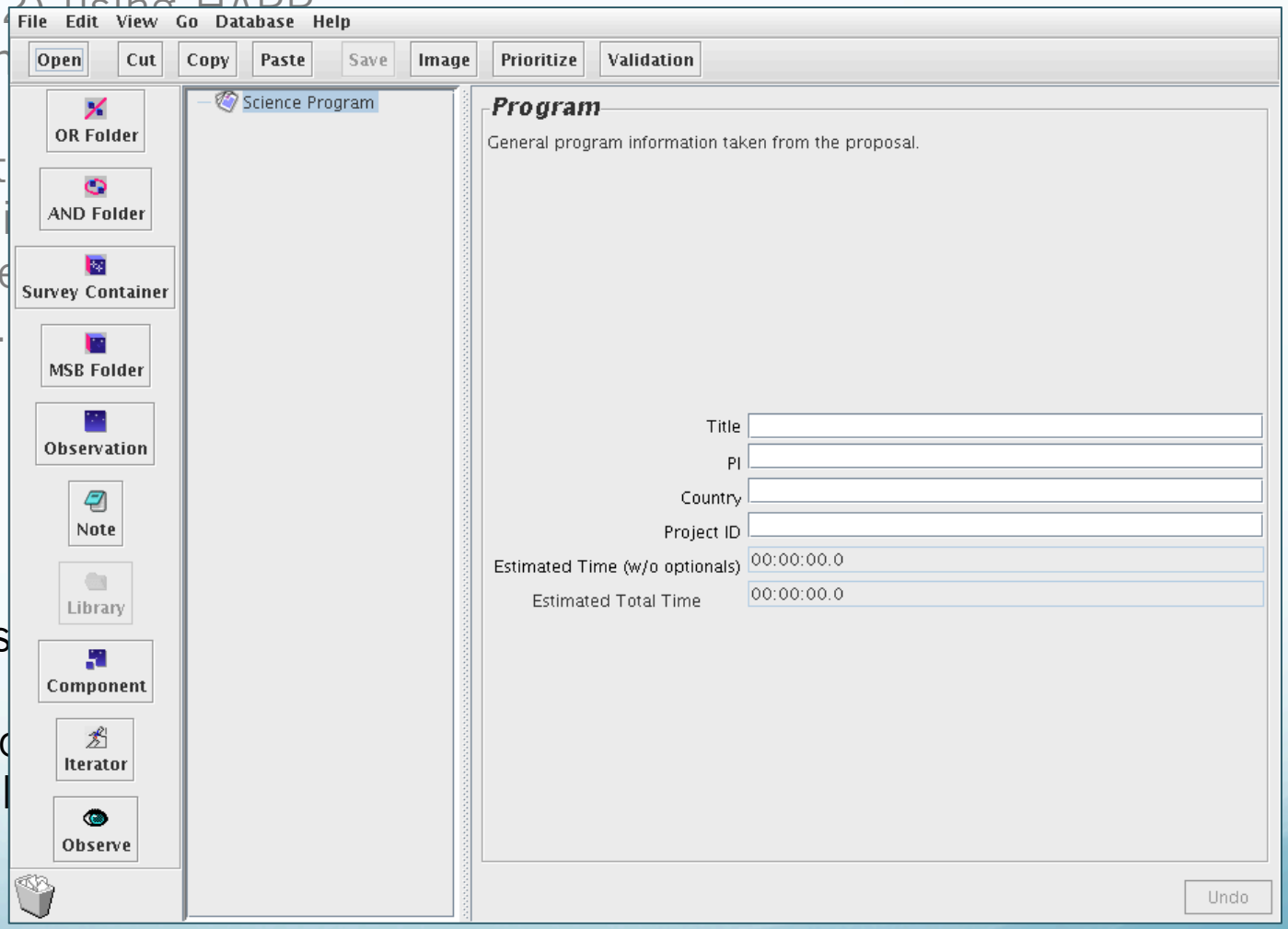
bins in Band 3.

Create your new program:



Feedback:

You have been s
request for time.
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Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO (3-2) using HARP. The are
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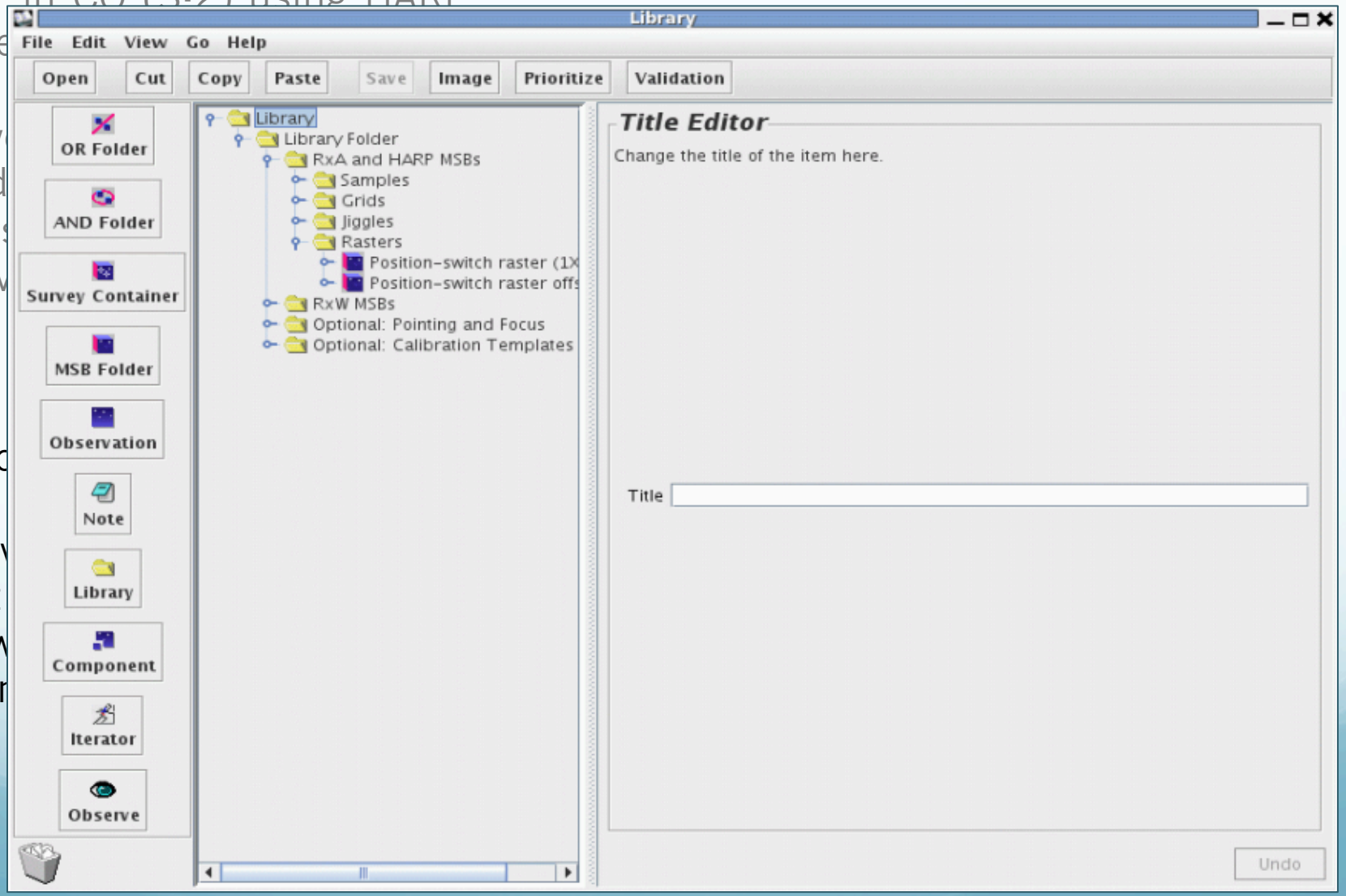
Search for an appropriate msb you can use as a template from the ACSIS Library:



Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO (3-2) using HARP. The
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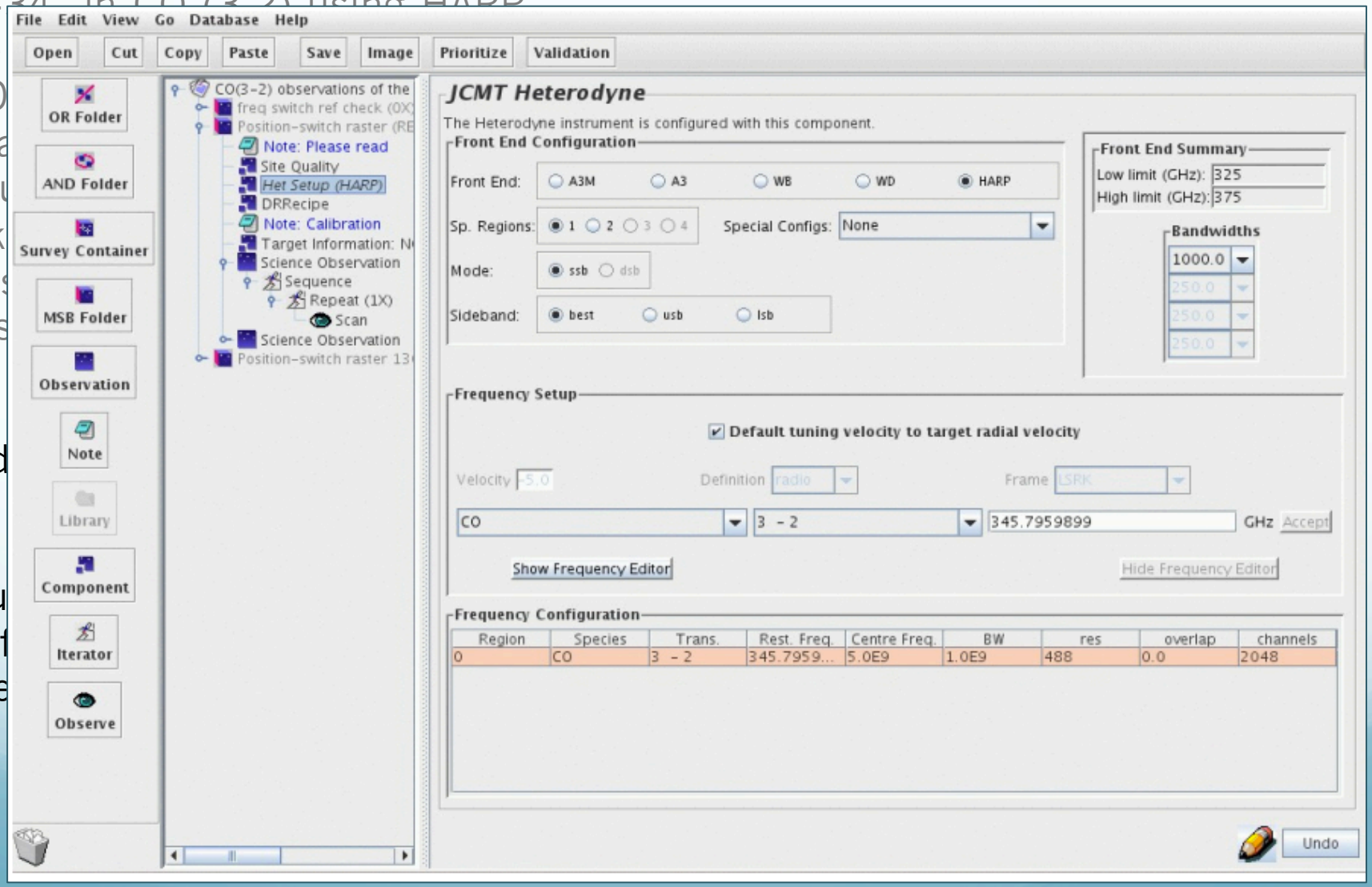
Copy over the template into your program and set up the heterodyne configuration:



Example 3: HARP

This project aims to map a molecular cloud at a declination of
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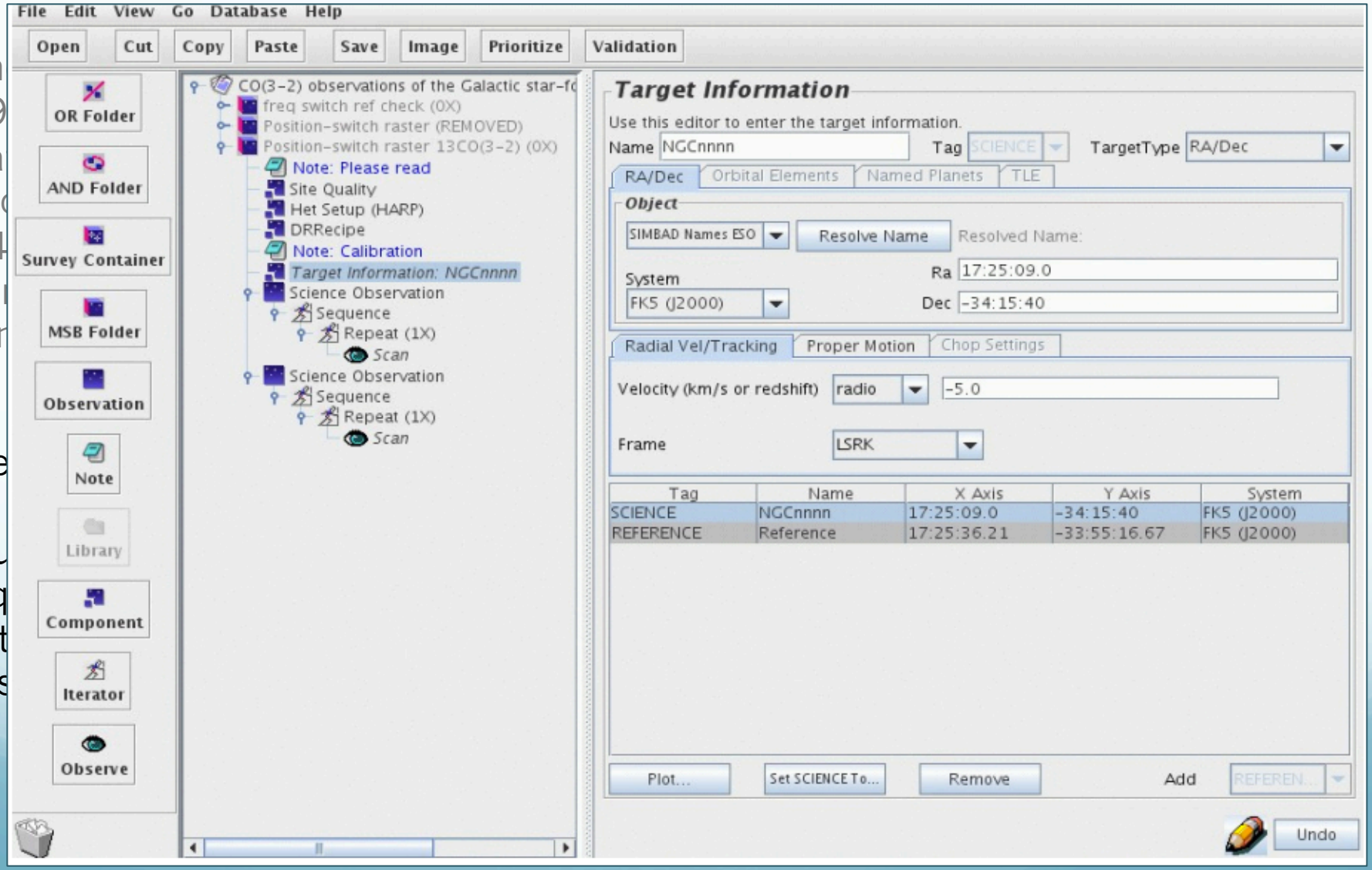
Fill in the target and reference position information:



Example 3: HARP

This project aims to map a
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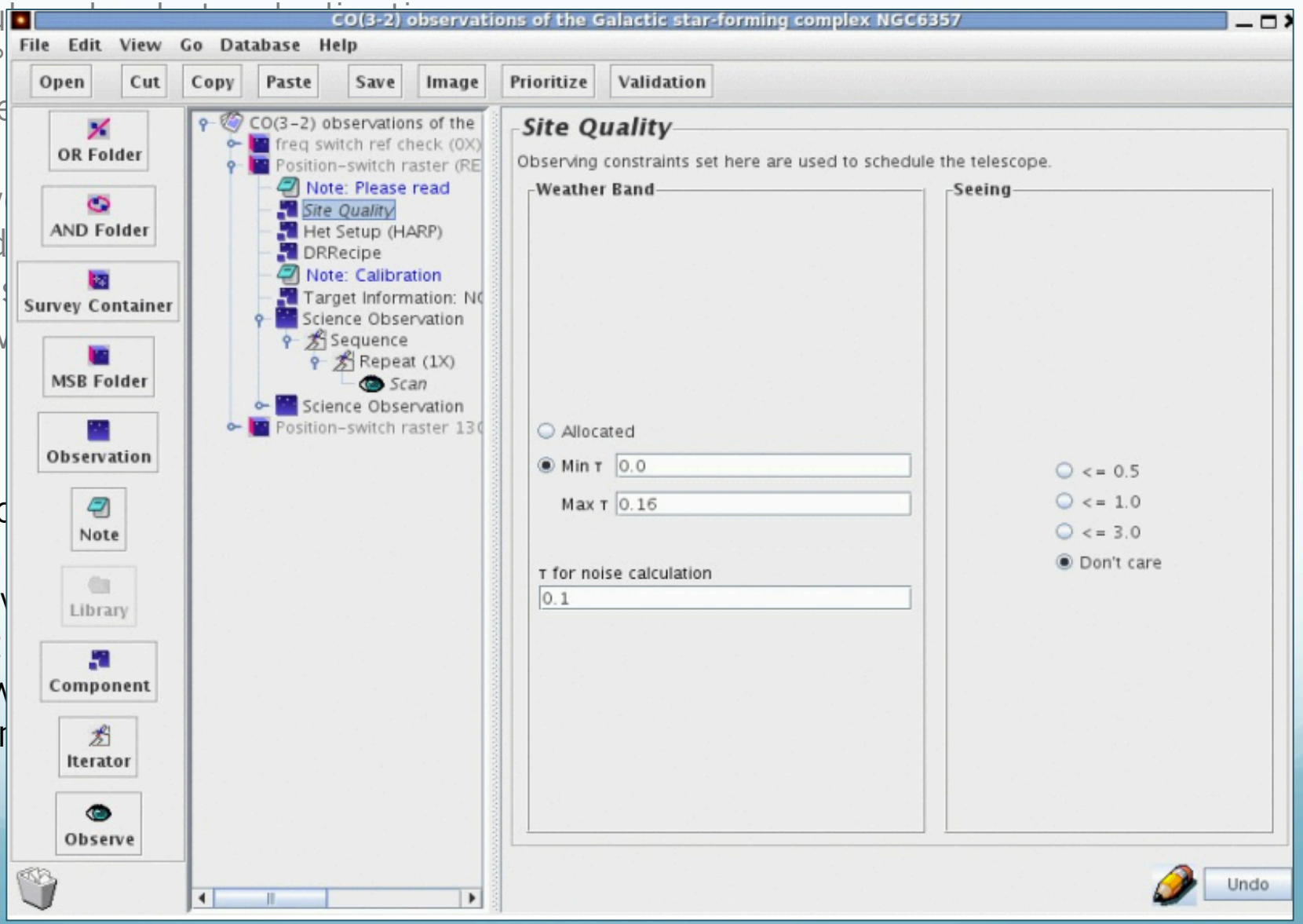
Site quality:



Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO (
The area we w
1900” x 1700
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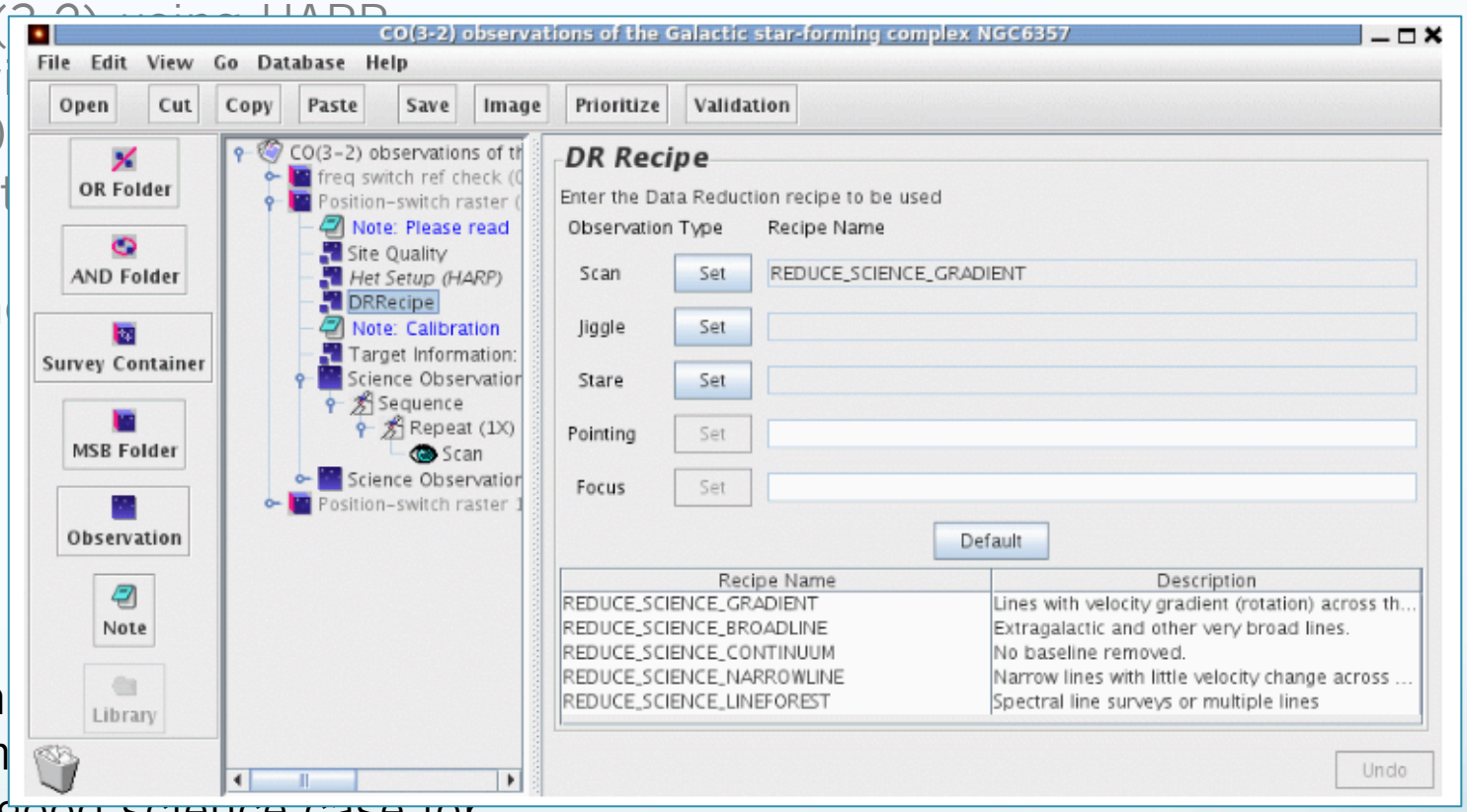
~4km/s. We th
sensitivity of
bins in Band 3.

Select a DR recipe:



Feedback:

You have been
request for tim
put forward an good science case for
observing this molecular cloud.

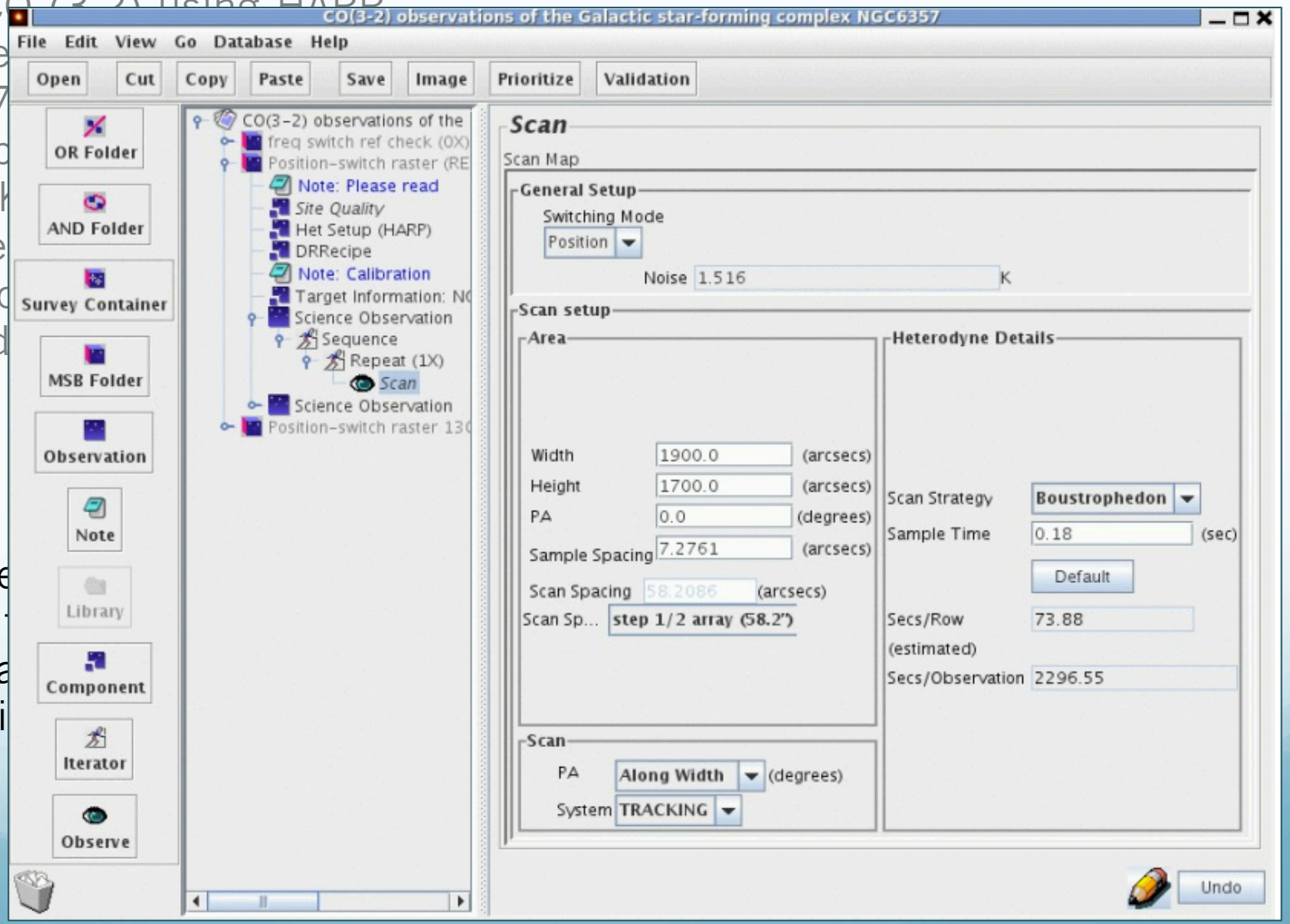
Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO (3-2) using HARP. The area we 1900” x 17 data we exp around 10k ~4km/s. We sensitivity c bins in Band

Feedback:

You have be request for put forward a observing thi

Set up the scanning information. Note the two components for the science observation:



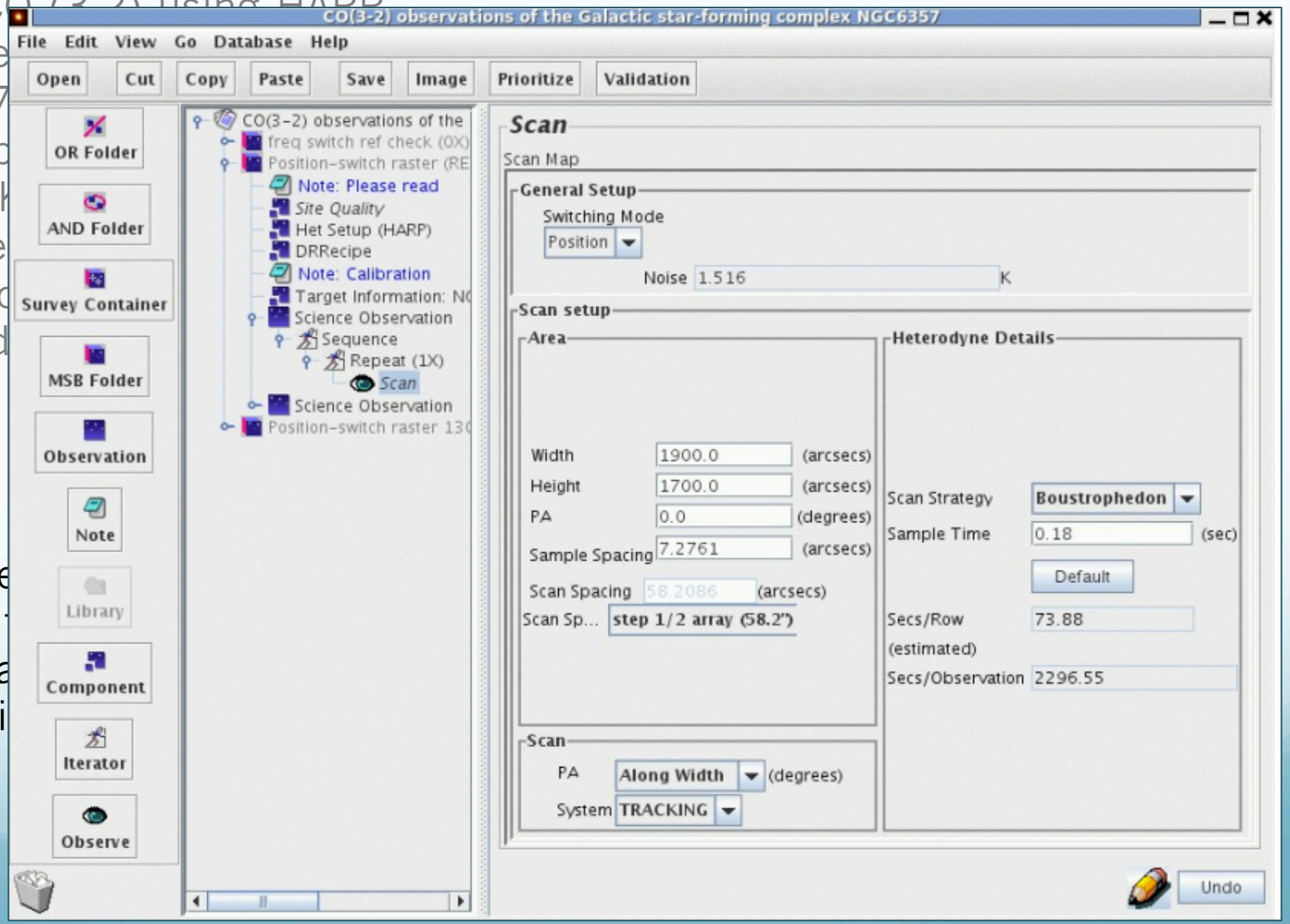
Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO (3-2) using HARP. The area we 1900" x 17 data we exp around 10k ~4km/s. We sensitivity c bins in Band

Feedback:

You have be request for put forward a observing thi

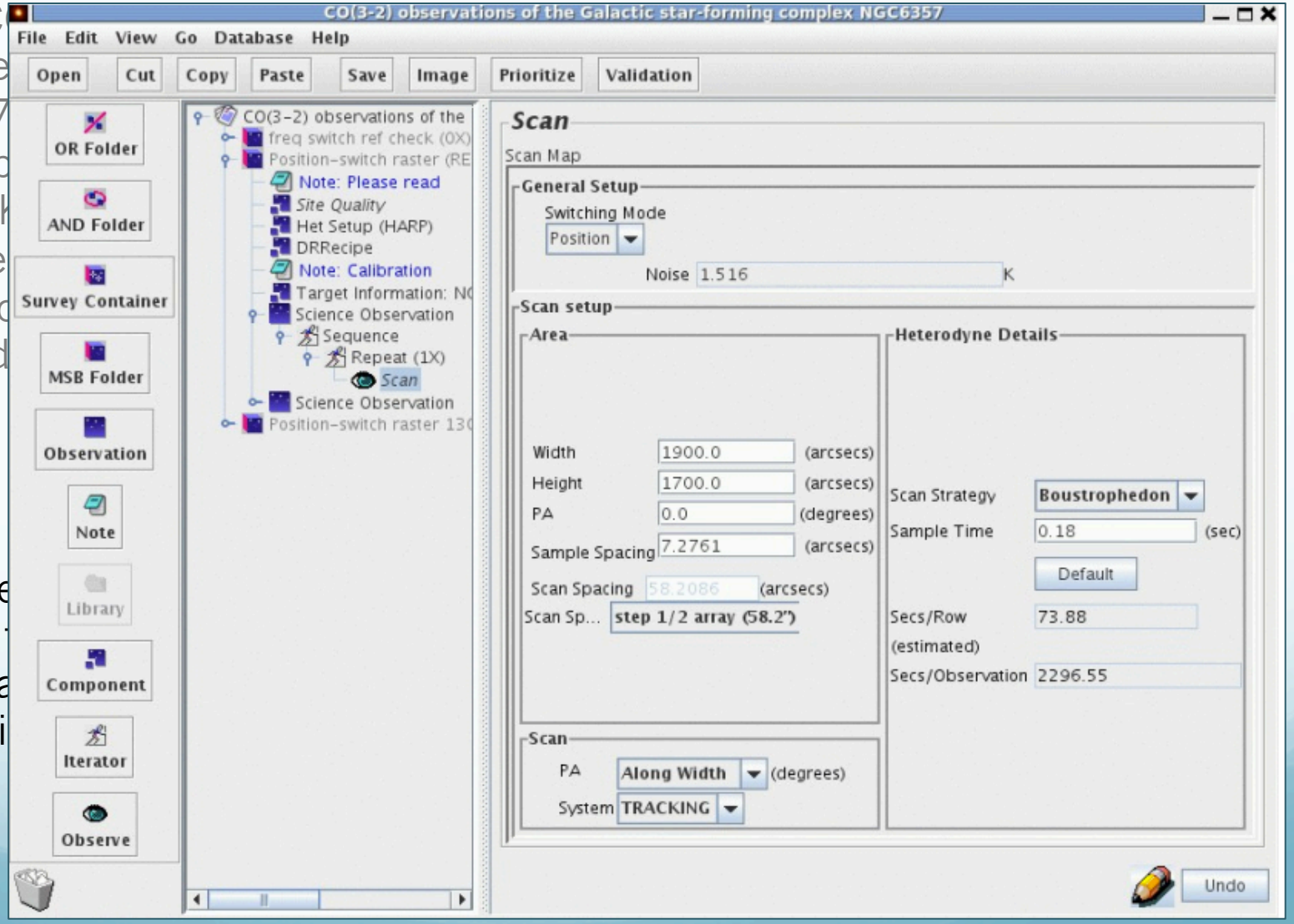
One has "Along Width" selected. The Other will have "Along Height" selected:



Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in C
The area we
1900" x 17
data we exp
around 10k
~4km/s. We
sensitivity
bins in Band

Each basket weave takes 38mins.
We observe both in one msb::



Feedback:

You have be
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observing thi

Example 3: HARP

This project aims to map a molecular cloud at a declination of -34° in CO
The area we
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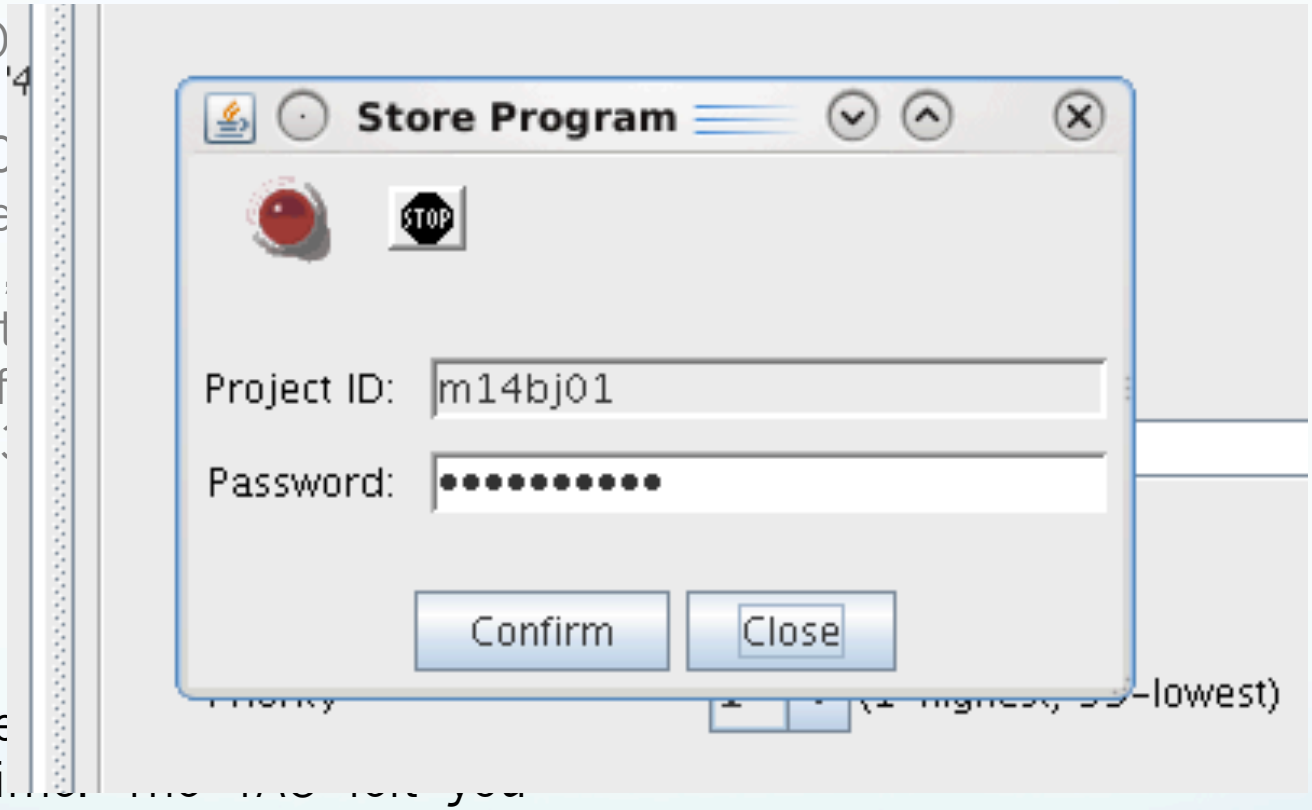
data we expe
around 10K,
~4km/s. We t
sensitivity of
bins in Band



Feedback:

You have bee
request for ti
put forward an good science case for observing this molecular cloud.

Example 4: HARP

I wish to investigate the HCN level in a comet. I will need a rms of 0.05K with a resolution of 0.25km/s. I will base my proposal on poor weather – Band 4.

Example 4: HARP

I wish to investigate the HCN level in a comet. I will need a rms of 0.05K with a resolution of 0.25km/s. I will base my proposal on poor weather – Band 4.

Feedback:

You have been successful in your request for time. The TAC felt this is a unique opportunity to lean more about this particular comet.

Example 4: HARP

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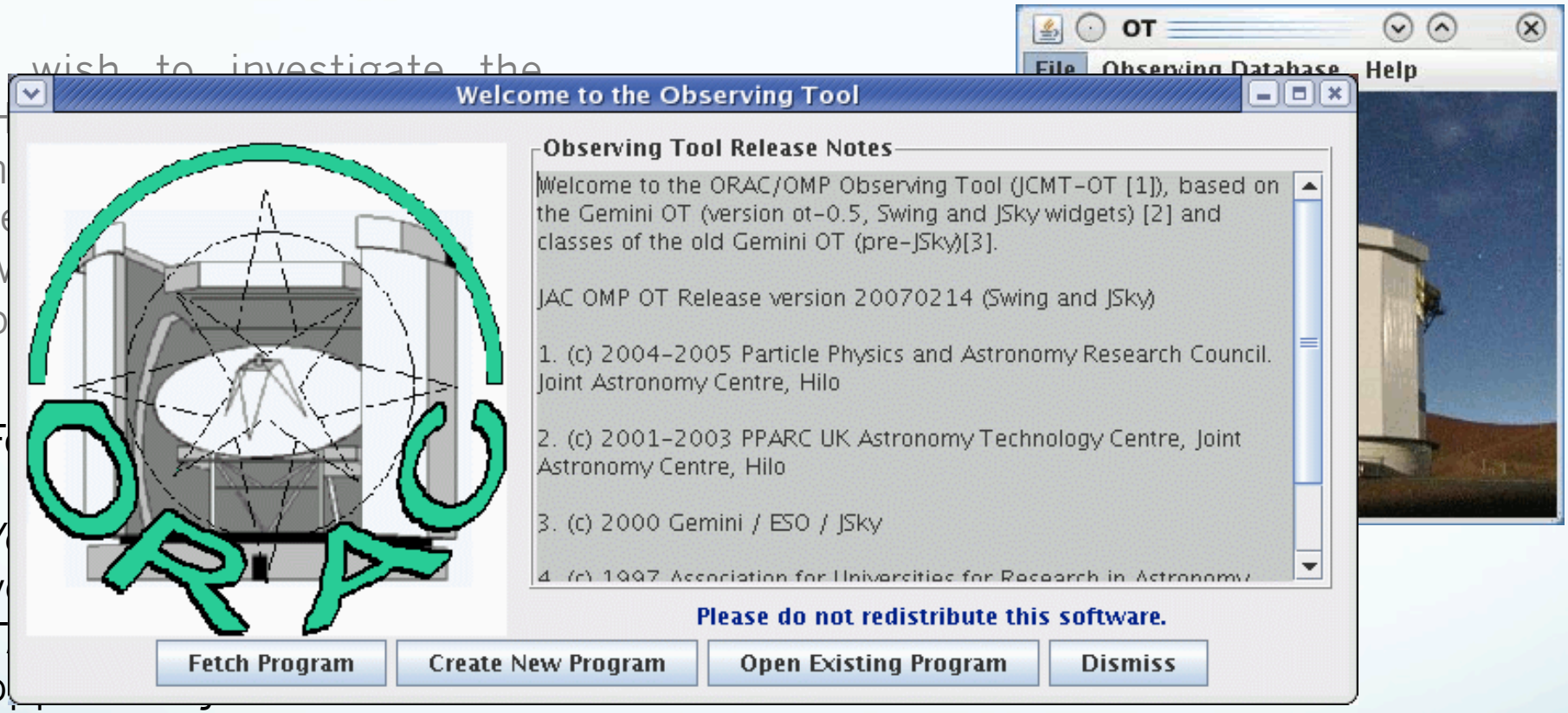

Example 4: HARP

I wish to investigate the
HCN level in a co
need a rms of 0.
resolution of 0.
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poor weather – Ba

Feedback:

You have been su
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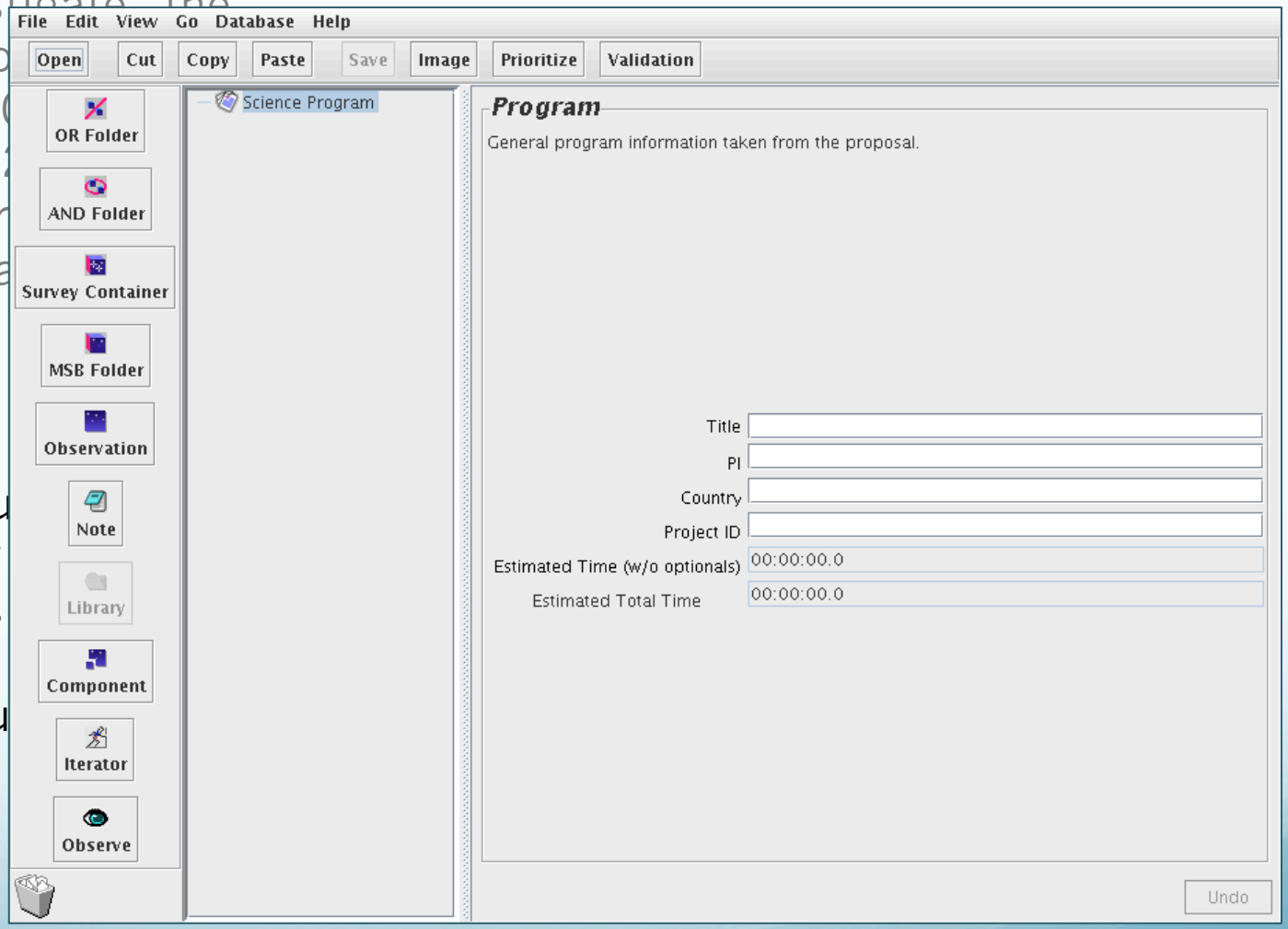
opportunity to
about this particu

Create your new program:



Example 4: HARP

Copy over the star set up into your program:

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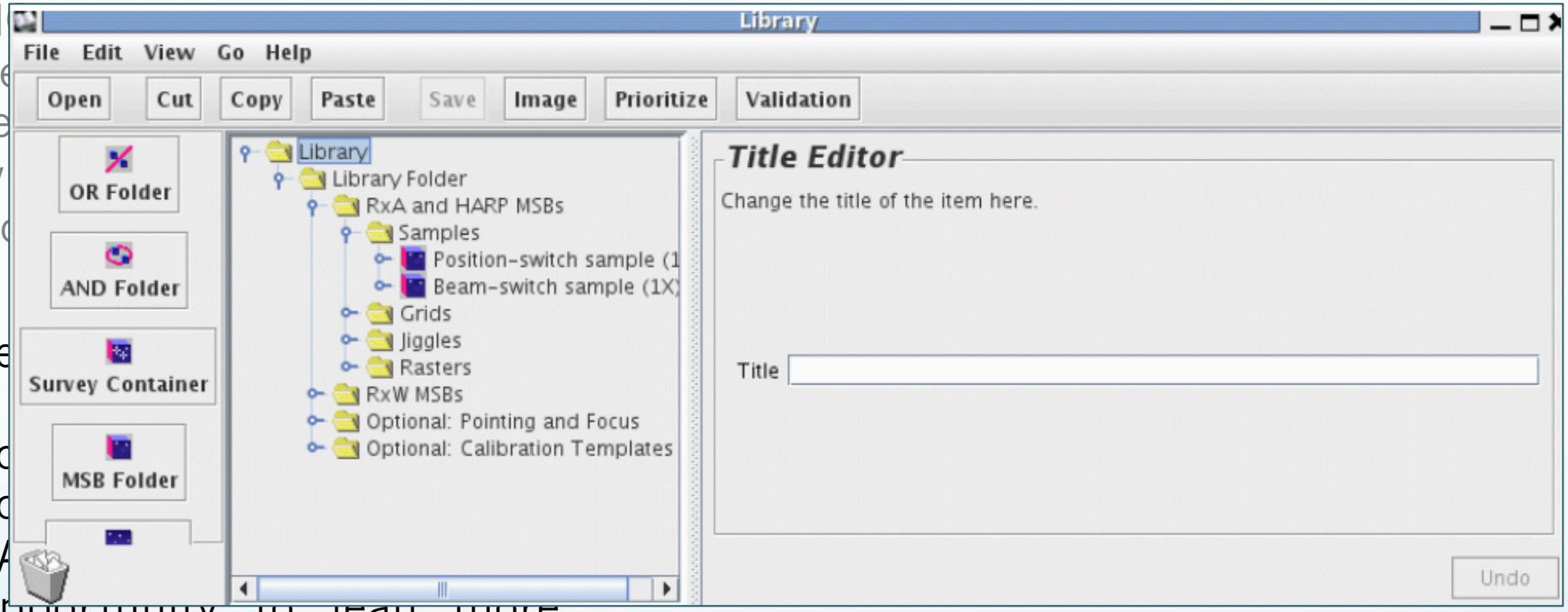
opportunity to learn more about this particular comet.



set up the heterodyne configuration:

Example 4: HARP

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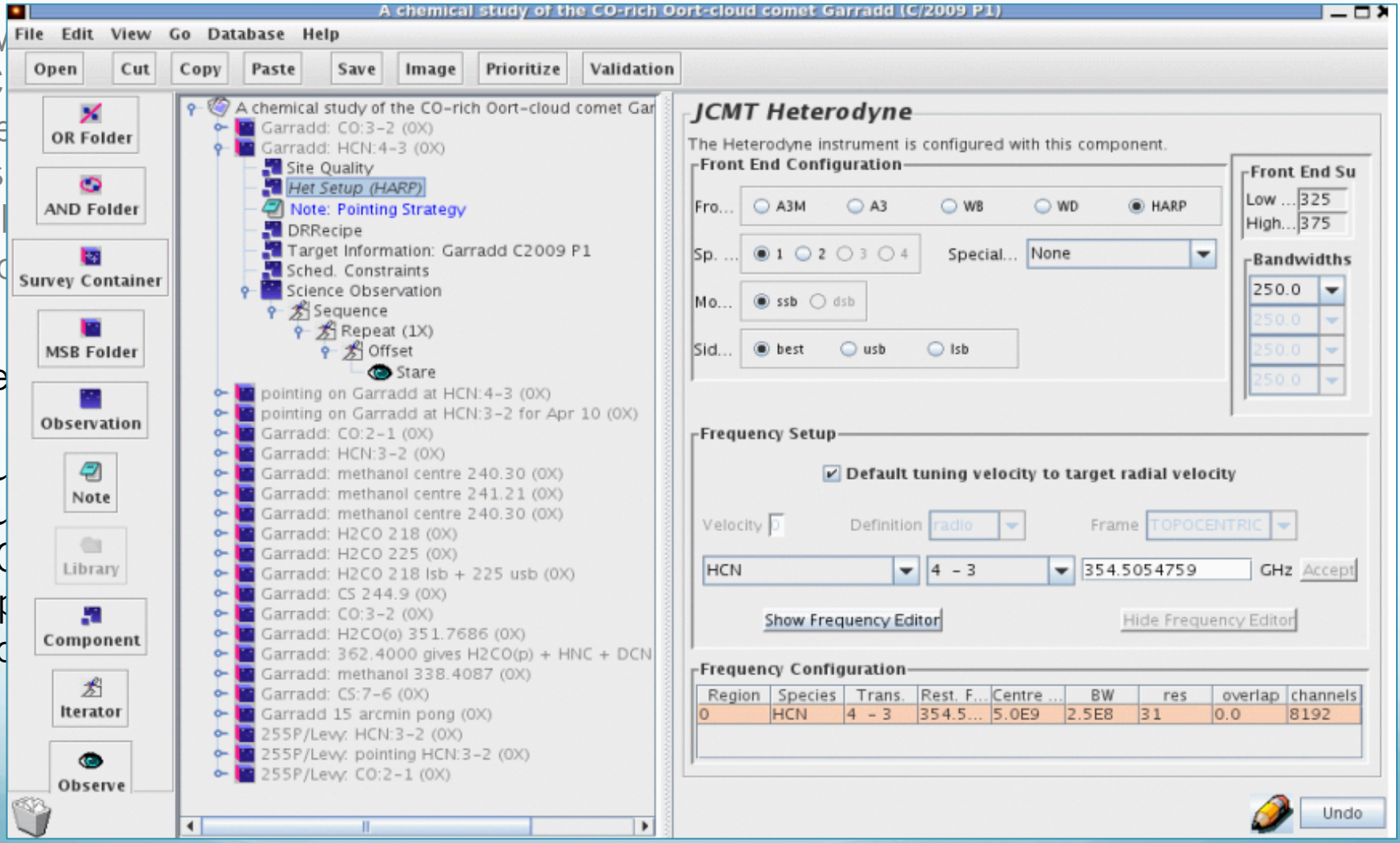
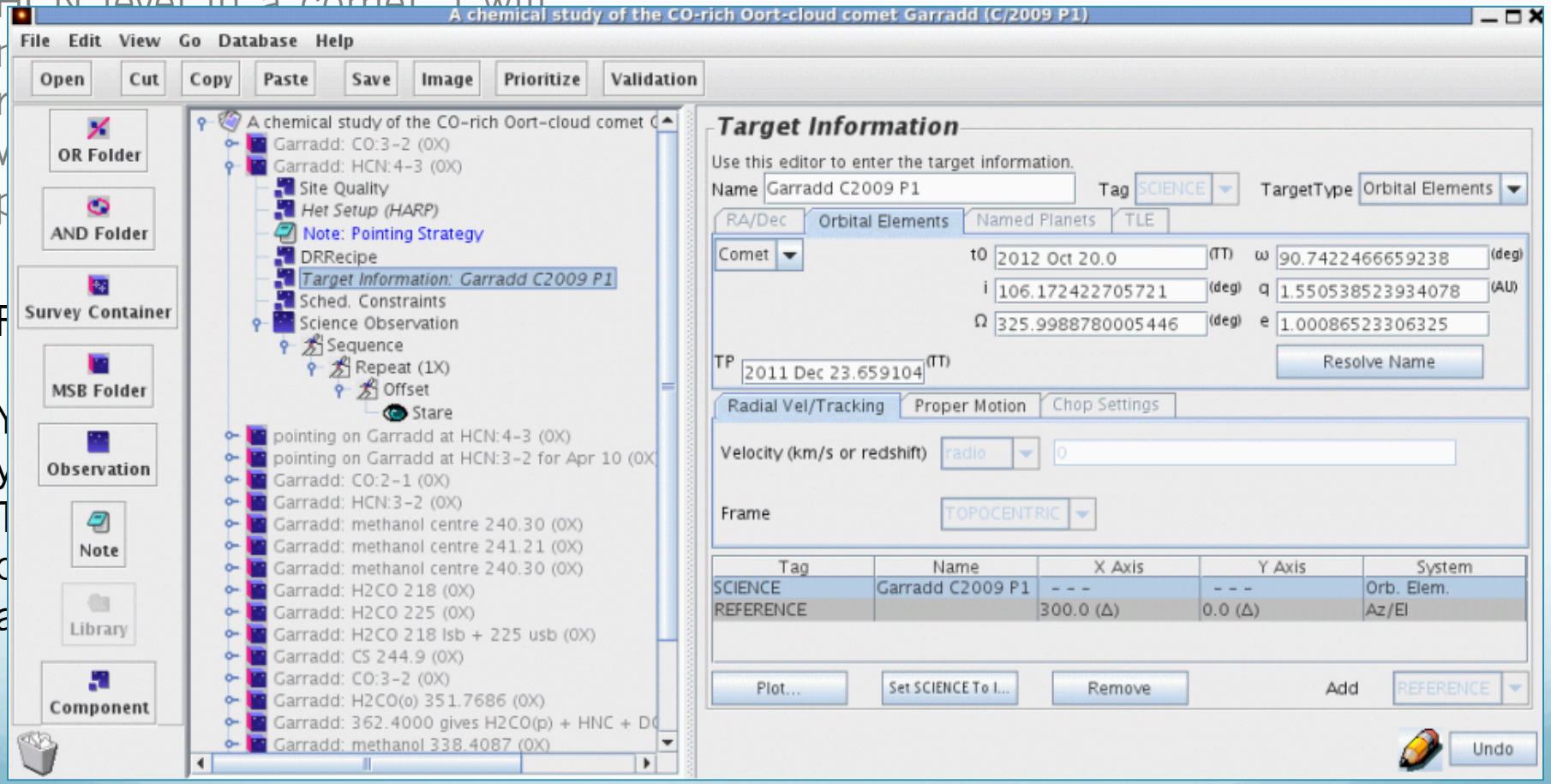


Example 4: HARP

I wish to investigate the HCN level in a comet. I will

Fill in the target and reference position information:



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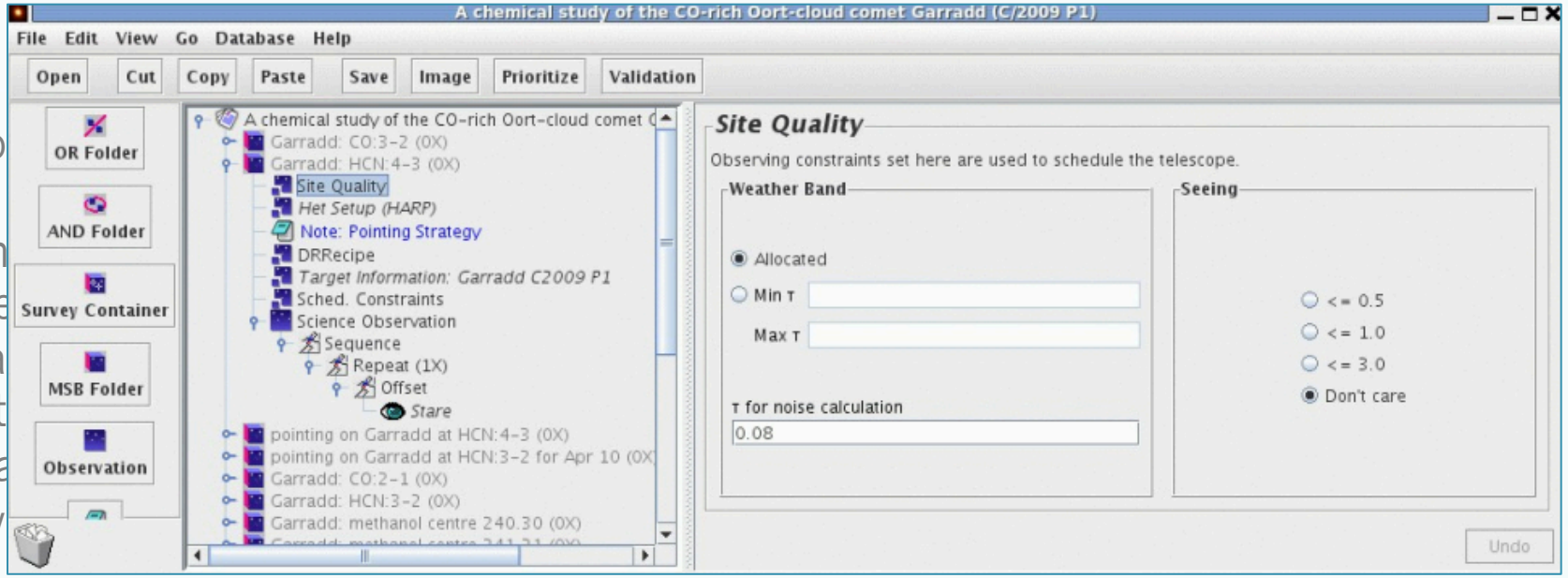
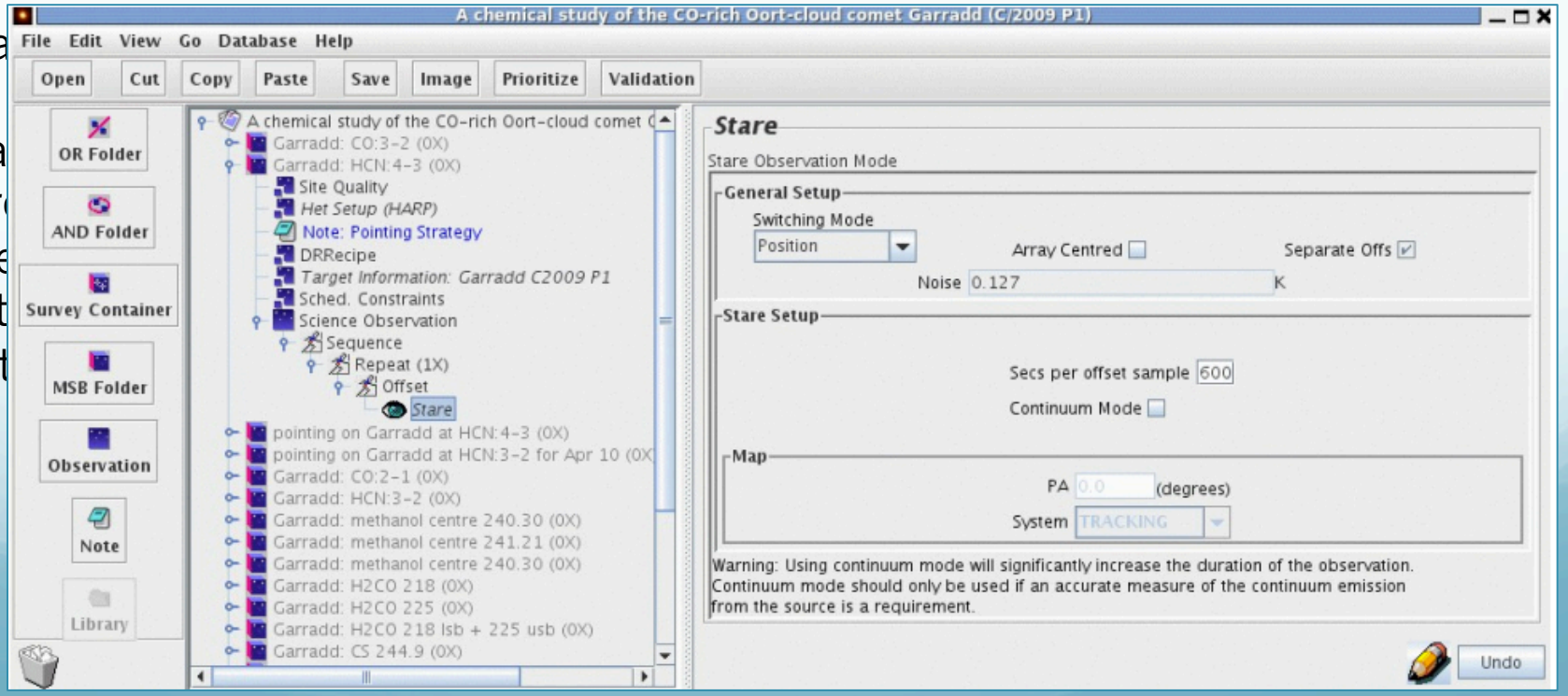




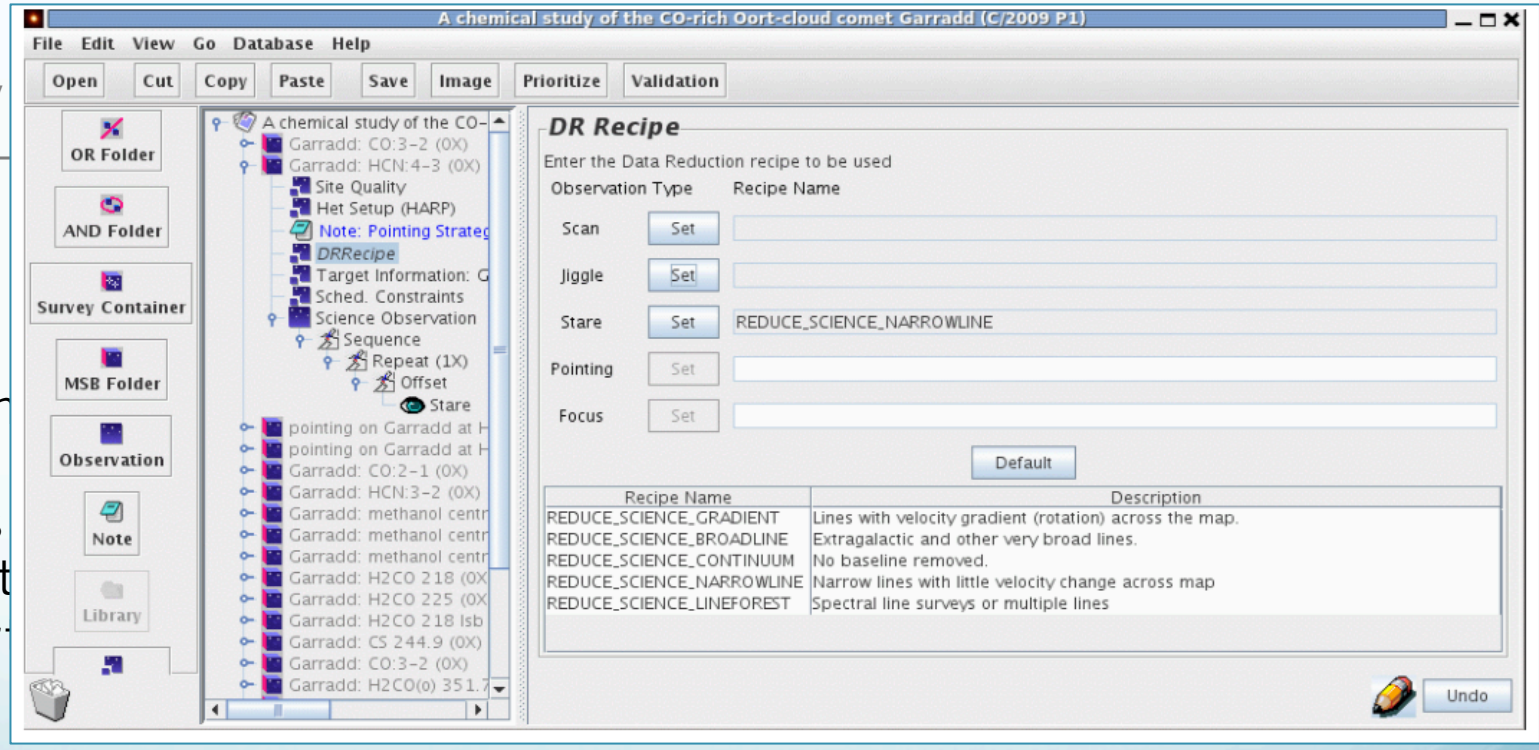
Example 4: HARP

I wish to investigate the HCN level in a comet. I will need a rms of 0.05K with a resolution of
will base my
poor weather -

Feedback:

You have beer
your request
TAC felt this
opportunity t
about this par

Select a DR recipe:



Example 4: HARP

I wish to ir
HCN level in
need a rms o
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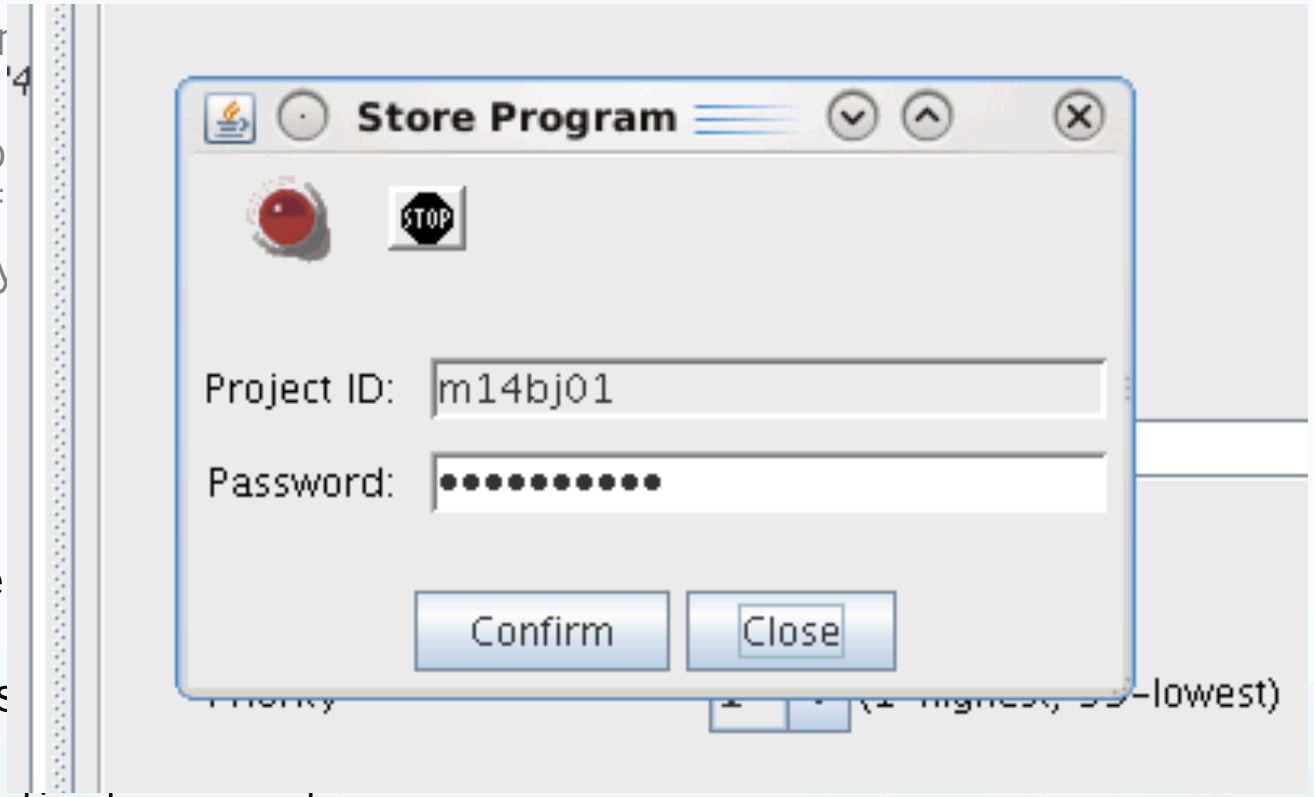
will base my
poor weather



Feedback:

You have bee
your request
TAC felt this
opportunity
about this particular comet.