

# ALMA Observing Tool

## Phase I: Observing Proposal

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*ALMA Novice-User Workshop  
December 18, 2010*

# Introduction

- ✿ *What is Observing Tool (OT) ?*
  - ✿ *provides a comprehensive set of interfaces (form and tool) to*
    - ✿ *define observing proposals at ALMA (Phase I)*
    - ✿ *prepare observing programs at ALMA (Phase II)*
  - ✿ *a java based application*

# The Current Status of OT

- ✦ *The OT is still under development*
- ✦ *The latest OT version is IP2, released in 2010 September*
  - ✦ *A new release is planned next week, for integrated test (IT3)*
  - ✦ *The IT3 version will also be used as a “restricted preview” for astronomers.*

# Supported Platforms

- ✿ *At present, ALMA officially supports the OT under*
  - ✿ *Sun/Solaris*
  - ✿ *RedHat 7, 9, and RedHat Enterprise*
  - ✿ *Linux Fedora and Scientific Linux*
  - ✿ *Suse Linux versions 7, 9 and 10*
  - ✿ *Windows XP and VISTA (Windows 7 ?)*
  - ✿ *MAC OSX 10.6 (Leopard and Snow Leopard)*
- ✿ *Installing correct Java software is also required*

# Installation



- ✦ *To run OT, Java Virtual Machine (JVM) is required*
  - ✦ *java -version -> 1.6.x*
- ✦ *Webstart*
  - ✦ *The OT is installed and run automatically on your computer*
- ✦ *Tarball*
  - ✦ *Download and install the OT manually*

# The OT Main GUI

The screenshot displays the main interface of the Observing Tool for Chajnantor (OT). The window title is "Project (0) - Observing Tool for Chajnantor, version IT2p1". The interface is divided into several sections:

- Project Structure:** Shows a tree view under "(unnamed project)" with "Project (0)" and "Proposal" nodes.
- Editors:** Contains tabs for "Spectral", "Spatial", "Forms", and "Catalog".
- Feedback:** Includes tabs for "Problems", "Information", and "Log", and a table with columns for "Description", "Suggestion", and "Resource".
- Overview:** Contains contextual help and a flowchart for "Phase I: Science Proposal".

**Contextual Help**

1. Please ensure you and your co-Is are registered with the [ALMA user portal](#)
2. Create a new proposal by either:
  - Selecting *File > New Proposal*
  - Clicking on the  icon in the toolbar
  - Or clicking on this [link](#)
3. Click on the  [proposal](#) tree node and complete the relevant fields.

**Phase I: Science Proposal**

```
graph LR; A[New Science Proposal] --> B[Create Science Goals]; B --> C[Validate Science Proposal]; C --> D[Submit Science Proposal];
```



Click on the overview steps to view the contextual help

Importing And Exporting    Template Library    Need More Help?    View Phase 2 Steps

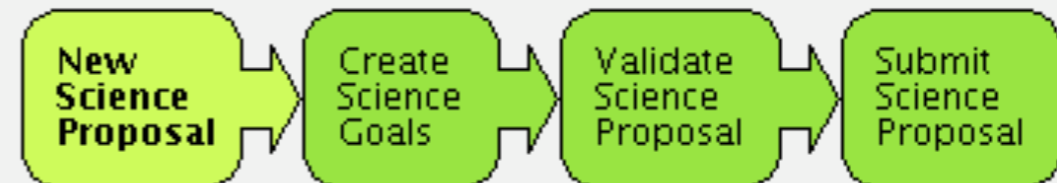
# Overview Steps

## *The Schematic Steps for Proposal and Observing Programs Preparation and Submission*

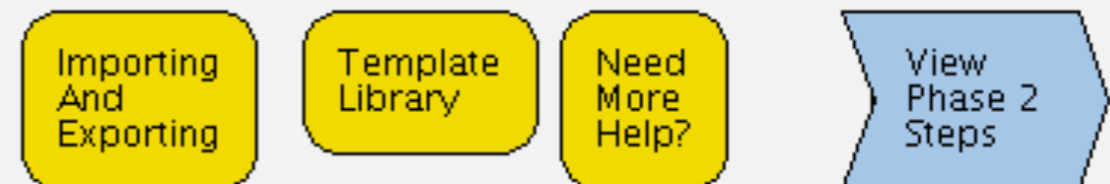
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### Phase I: Science Proposal



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# Overview Steps

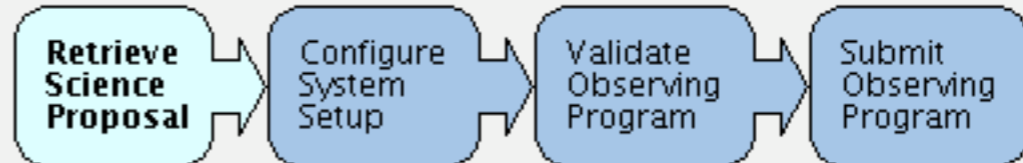
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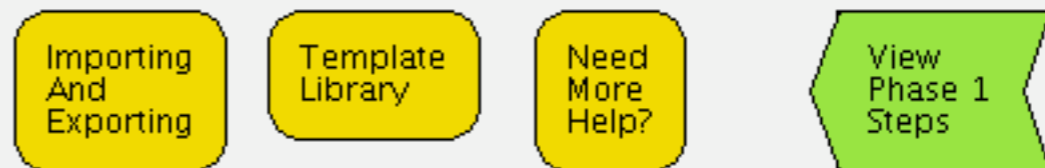
Retrieve your science proposal from the ALMA server by either:

- Selecting *File > Open Project > From ALMA Archive*
- Or clicking on this [link](#)

### Phase II: Observing Program





Click on the overview steps to view the contextual help



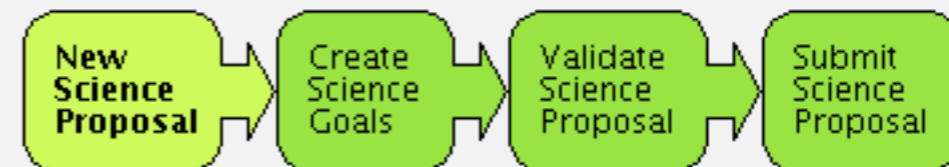


# Overview Steps

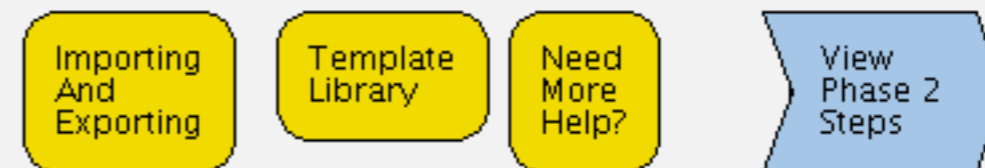
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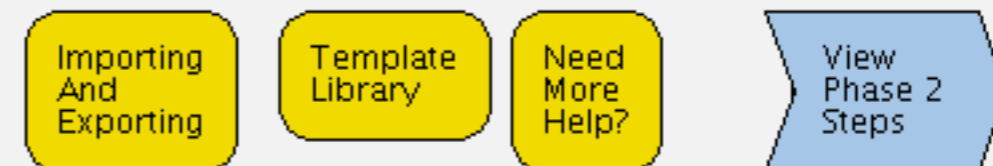
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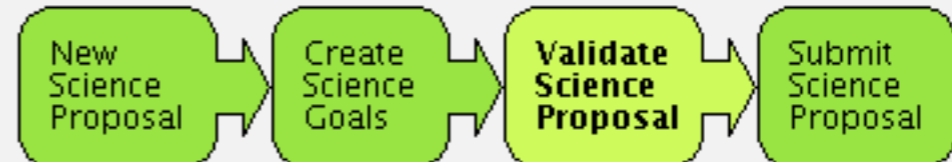


# Overview Steps

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## Phase I: Science Proposal



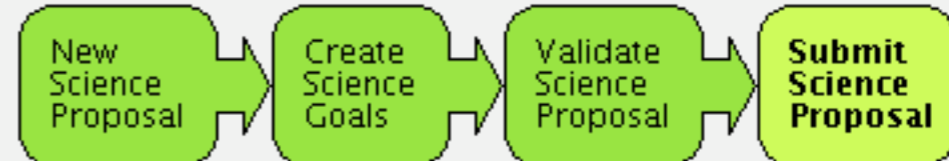
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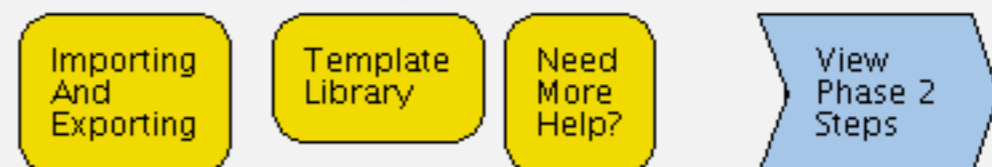
## Contextual Help

- Submit your science proposal to the ALMA server by either:
- Selecting *File > Submit Project*
  - Or clicking on this [link](#)

## Phase I: Science Proposal



Click on the overview steps to view the contextual help



# Tools and Simulators

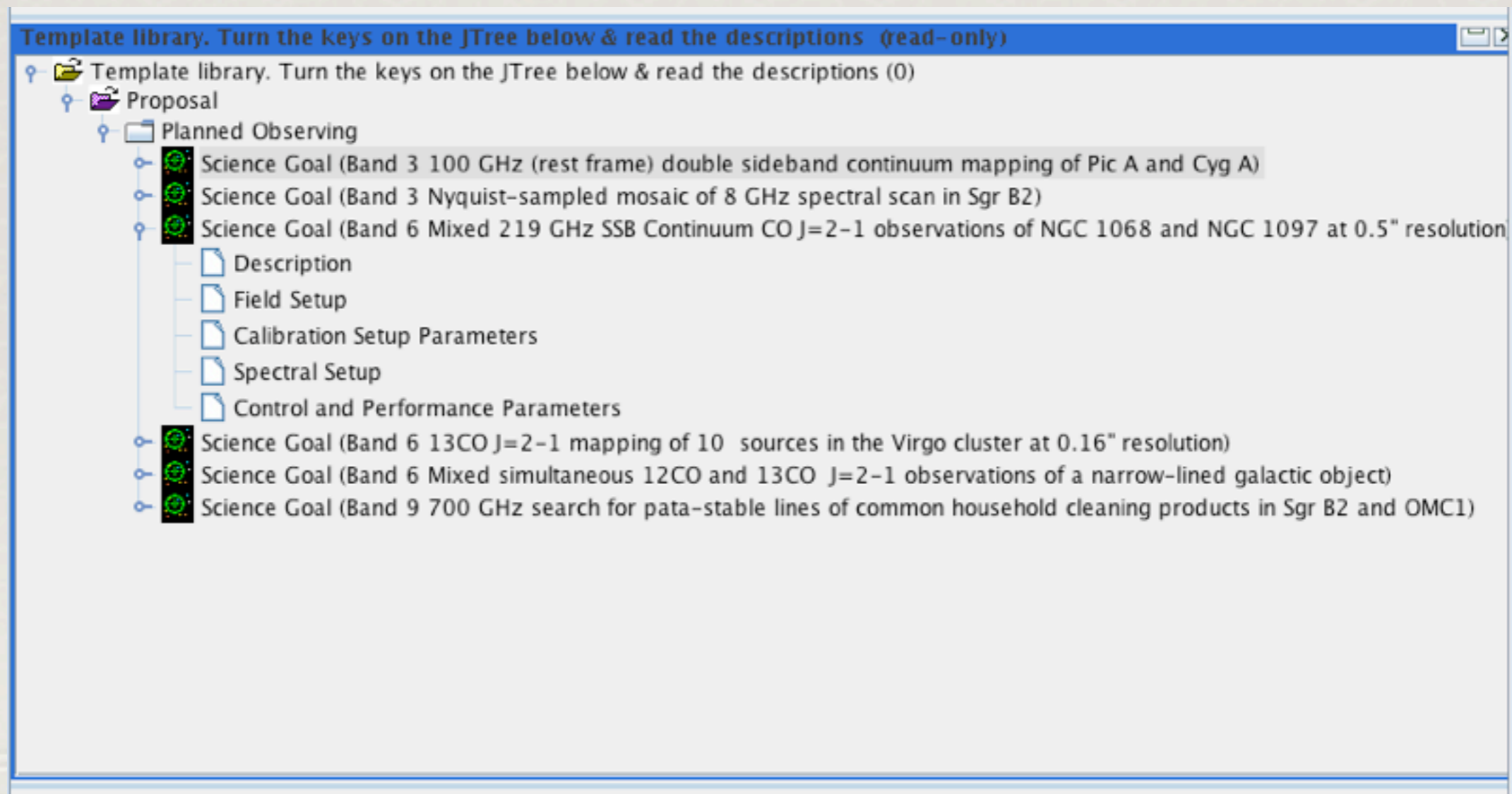
- ✦ *The ALMA Template Library*
- ✦ *Calibrator Selection Tool*
- ✦ *Sensitivity Calculator*
- ✦ *ALMA LO Configuration Tool*
- ✦ *Spectral Line Selection Tool*
- ✦ *Visual Editors*
  - ✦ *The Visual Spatial Editor*
  - ✦ *The Visual Spectral Line Editor*

# Tools and Simulators

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  - ✦ *The Visual Spectral Line Editor*

# Tools and Simulators

## ◆ *The ALMA Template Library*



Template library. Turn the keys on the JTree below & read the descriptions (read-only)

- Template library. Turn the keys on the JTree below & read the descriptions (0)
  - Proposal
    - Planned Observing
      - Science Goal (Band 3 100 GHz (rest frame) double sideband continuum mapping of Pic A and Cyg A)
      - Science Goal (Band 3 Nyquist-sampled mosaic of 8 GHz spectral scan in Sgr B2)
      - Science Goal (Band 6 Mixed 219 GHz SSB Continuum CO J=2-1 observations of NGC 1068 and NGC 1097 at 0.5" resolution)
        - Description
        - Field Setup
        - Calibration Setup Parameters
        - Spectral Setup
        - Control and Performance Parameters
      - Science Goal (Band 6 13CO J=2-1 mapping of 10 sources in the Virgo cluster at 0.16" resolution)
      - Science Goal (Band 6 Mixed simultaneous 12CO and 13CO J=2-1 observations of a narrow-lined galactic object)
      - Science Goal (Band 9 700 GHz search for pata-stable lines of common household cleaning products in Sgr B2 and OMC1)

# Tools and Simulators

## ✦ *Sensitivity Calculator*

Sensitivity Calculator

Common Parameters

Dec	00:00:00.000		
Polarization	Dual ▼		
Observing Frequency	230.0	GHz	▼
Bandwidth per Polarization	8.0	GHz	▼
Water Vapour Column Density	Calculator Chooses ▼		
tau/Tsky	tau=0.136, Tsky=37.814 K		
Tsys	155.427 K		

Individual Parameters

	12m Array	7m Array	Total Power Array
Number of Antennas	50	12	4
Resolution	1.0 arcsec ▼	8.961831 arcsec	22.404577 arcsec
Sensitivity(rms)	.10000 mJy ▼	0.00000 Jy ▼	0.00000 Jy ▼
(equivalent to)	0.01348 K ▼	NaN K ▼	0.00000 K ▼
Integration Time	2.16601 min ▼	∞ h ▼	∞ h ▼

Integration Time Unit Option: Automatic ▼

Calculate Integration Time    Calculate Sensitivity    Close

# Tools and Simulators

## ✦ *Spectral Line Selection Tool*

**Filter / Species**  
CH3CN

**ALMA Band**  
1 2 3 4 5 6 7 8 9 10

**Frequency (GHz)**  
Min 84 Max 116

Search Online  
Reset Filters

**Help**  
The initial results shows all lines in the Observing Tool's offline database, which contains selected transitions from the ALMA spectral line catalogue. Additional transitions from the full ALMA catalogue can be retrieved from the network and added to the results set by clicking *Search Online*.

*Note: the Search Online button is only enabled when a species is given and one ALMA band is selected using the controls above.*

**Available transitions**

Transition	Description	Frequency (G...
13CH3CN 5(1)-4(1)	Methyl Cyanide	89.3296
13CH3CN 5(0)-4(0)	Methyl Cyanide	89.3313
CH3CNv=0 5(4)-4...	Methyl Cyanide	91.9590
CH3CNv=0 5(4)-4...	Methyl Cyanide	91.9594
CH3CNv=0 5(3)-4...	Methyl Cyanide	91.9713
CH3CNv=0 5(3)-4...	Methyl Cyanide	91.9715
CH3CNv=0 5(2)-4...	Methyl Cyanide	91.9800
CH3CNv=0 5(1)-4...	Methyl Cyanide	91.9853
CH3CNv=0 5(0)-4...	Methyl Cyanide	91.9871
CH3CNv8=1 5(0)-...	Methyl Cyanide	92.2614
CH3CNv8=1 5(2)-...	Methyl Cyanide	92.2640
CH3CNv8=1 5(1)-...	Methyl Cyanide	92.3535
13CH3CN 6(4)-5(4)	Methyl Cyanide	107.1643
13CH3CN 6(3)-5(3)	Methyl Cyanide	107.1784
13CH3CN 6(2)-5(2)	Methyl Cyanide	107.1885
13CH3CN 6(1)-5(1)	Methyl Cyanide	107.1945
13CH3CN 6(0)-5(0)	Methyl Cyanide	107.1966
CH3CNv=0 6(5)-5...	Methyl Cyanide	110.3306
CH3CNv=0 6(5)-5...	Methyl Cyanide	110.3309
CH3CNv=0 6(4)-5...	Methyl Cyanide	110.3497
CH3CNv=0 6(4)-5...	Methyl Cyanide	110.3498
CH3CNv=0 6(3)-5...	Methyl Cyanide	110.3645
CH3CNv=0 6(3)-5...	Methyl Cyanide	110.3645
CH3CNv=0 6(2)-5...	Methyl Cyanide	110.3751
CH3CNv=0 6(1)-5...	Methyl Cyanide	110.3814
CH3CNv=0 6(0)-5...	Methyl Cyanide	110.3835
CH3CNv8=1 6(1)-...	Methyl Cyanide	110.6096
CH3CNv8=1 6(5)-...	Methyl Cyanide	110.6374
CH3CNv8=1 6(4)-...	Methyl Cyanide	110.6609
CH3CNv8=1 6(4)-...	Methyl Cyanide	110.6611

**Selected transitions**

Transition	Description	Frequency (GHz)
CH3CNv8=1 5(2)-...	Methyl Cyanide	92.2640

Add Remove

Done

# Tools and Simulators

- ✦ ***The Visual Spatial Editor***

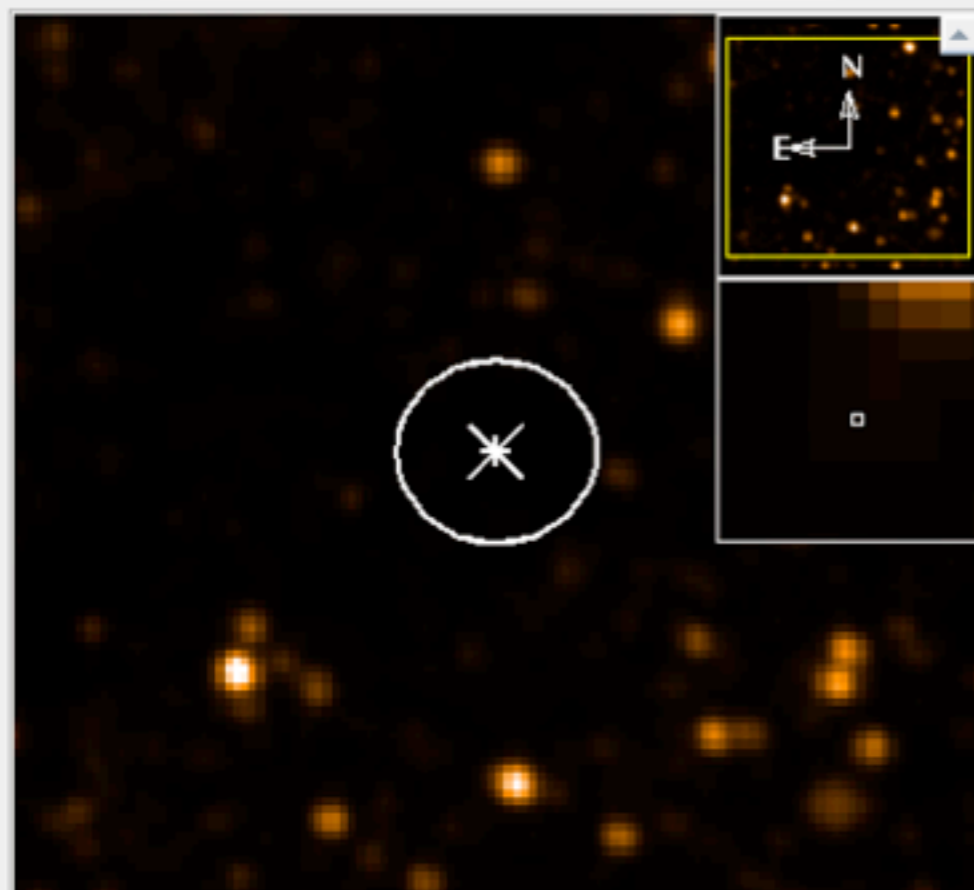
- ✦ *A graphic interference for helping observers to setup target parameters*

- ✦ *loading images from*

- ✦ *data archives (2mass, digitized sky, CO via skyview etc)*

- ✦ *local fits files*





1x | 119, 33 | 390.17142  
 18:00:01.516, -24:00:49.35 (J2000)  
 image filename : .jsky3/cache/jsky2162890622068235021.fits

## FOV Parameters

Frequency used  GHz   
 (taken from)   
 Antenna Diameter  12m  7m  
 Main beam size   
 Show FOV(circle)

## Image Query

Image Server   
 Image Size(arcmin)

## Target

G5.89-0.39

## Source

Source Name

Choose a Solar System Object?  Name of object

Source Coordinates  
 System  Sexagesimal display?   
 RA  Parallax    
 Dec  PM RA    
 PM DEC

Source Velocity     z

Target Type  Single Point Field  1 rectangular field

## Field Center Coordinates

Coords Type  ABSOLUTE  RELATIVE

Offset(Longitude)

Offset(Latitude)

# Tools and Simulators

## ✦ *The Visual Spectral Line Editor*

Editors

Spectral Spatial Science Goal () Catalog

Visualisation

Observed Frequency

00 100,00 200,00 300,00 400,00 500,00 600,00 700,00 800,00 900,00 1000.

01 02 03 04 05 06 07 08 09 10

Frequency in Target Frame

00 100,00 200,00 300,00 400,00 500,00 600,00 700,00 800,00 900,00 1000.

Receiver Bands  Transmission  Other Transitions

Spectral Type

Up to 4 spectral elements/windows

Spectral Type: Choose the type of spectral observation you wish to make

More than 4 spectral elements/windows

Single continuum (average frequency)

Spectral scan

Polarization Products desired

SINGLE\_X  SINGLE\_Y  DOUBLE  FULL

Up to 4 spectral elements/windows

Center Freq Rest	Center Freq Sky	Transition	Bandwidth, Resolution	Continuum

# Overview Steps

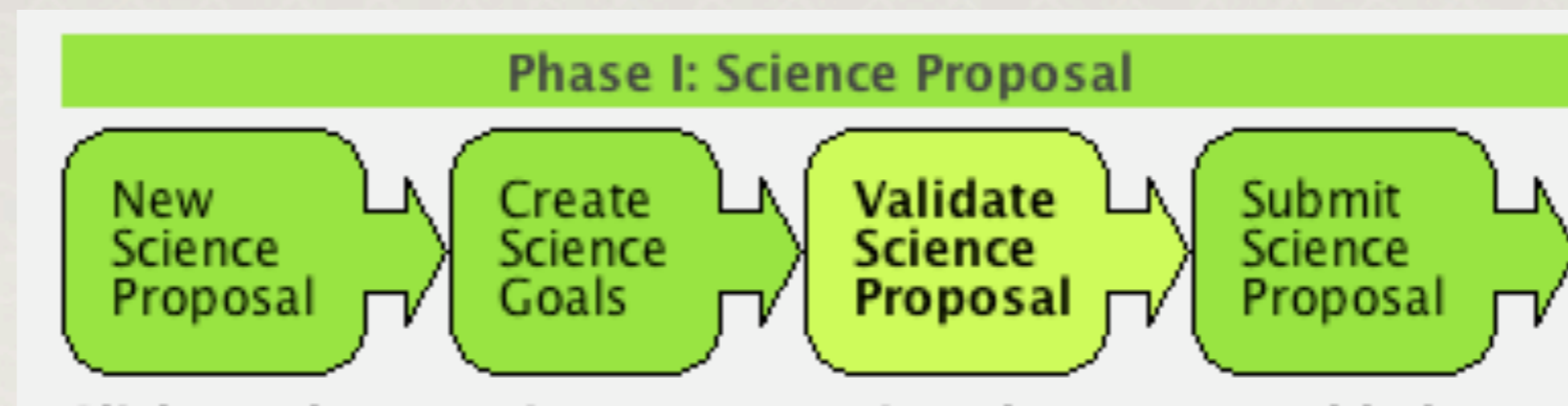
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- ★ *New Science Proposal*

- ★ *Create Science Goals*

- ★ *Verify Science Proposal*

- ★ *Submit Science Proposal*



# Overview Steps

★ *Four Main Steps at Phase I Stage:*



★ ***New Science Proposal***

★ *Create Science Goals*

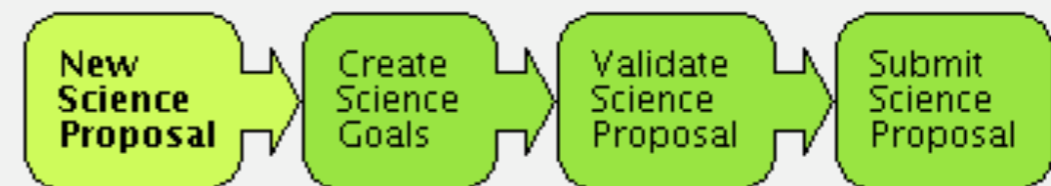
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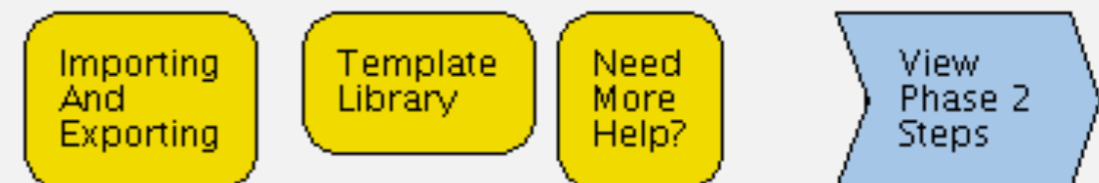
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## Phase I: Science Proposal



Click on the overview steps to view the contextual help




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- ✦ ***Create Science Goals***
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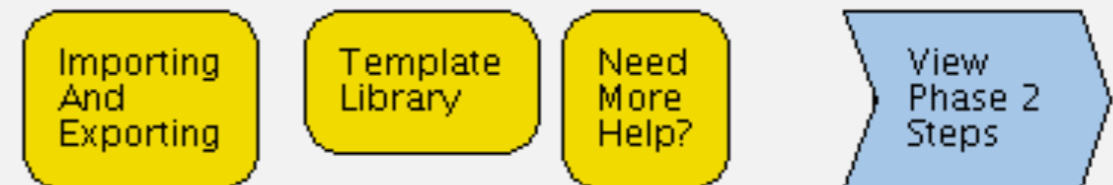
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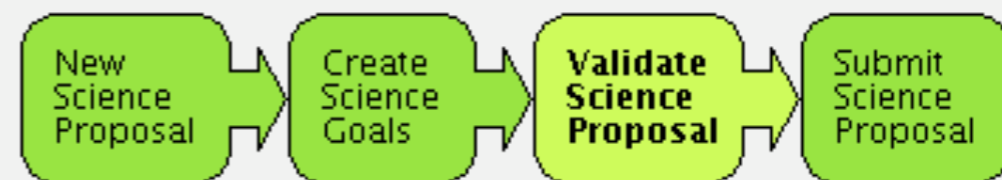
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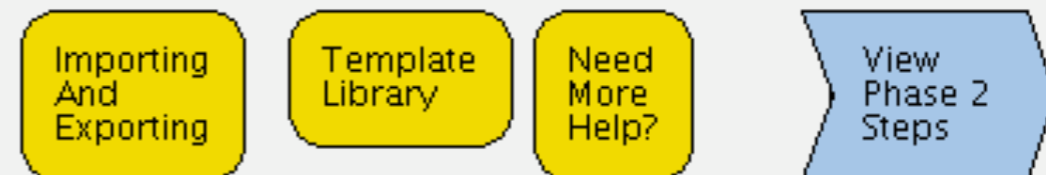
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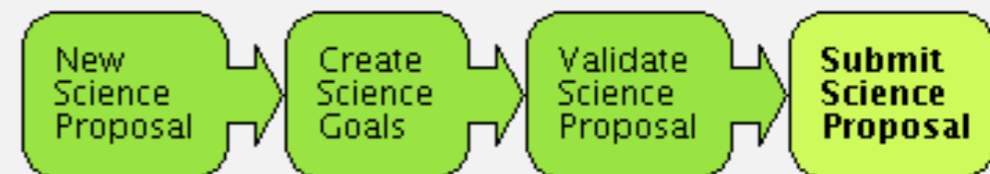
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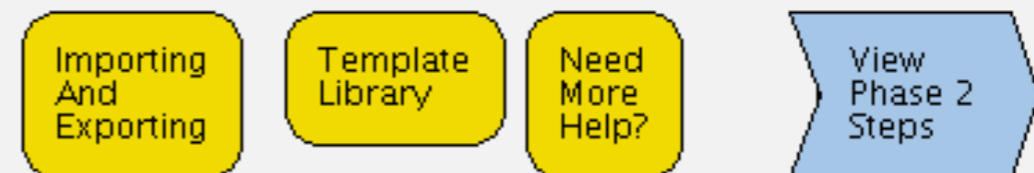
Submit your science proposal to the ALMA server by either:

- Selecting *File > Submit Project*
- Or clicking on this [link](#)

### Phase I: Science Proposal



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# Project Structure (Phase I)

Project (0) - Observing Tool for Chajnantor, version IT2p1

File Edit View Tool Search Help Perspective 1

**Project Structure**

Proposal Program

(unnamed project)

- Project (0)
  - Proposal

**Editors**

Spectral Spatial Forms Catalog

**Feedback**

Problems Information Log

Description	Suggestion	Resource

**Overview**

**Contextual Help**

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**Phase I: Science Proposal**

New Science Proposal → Create Science Goals → Validate Science Proposal → Submit Science Proposal

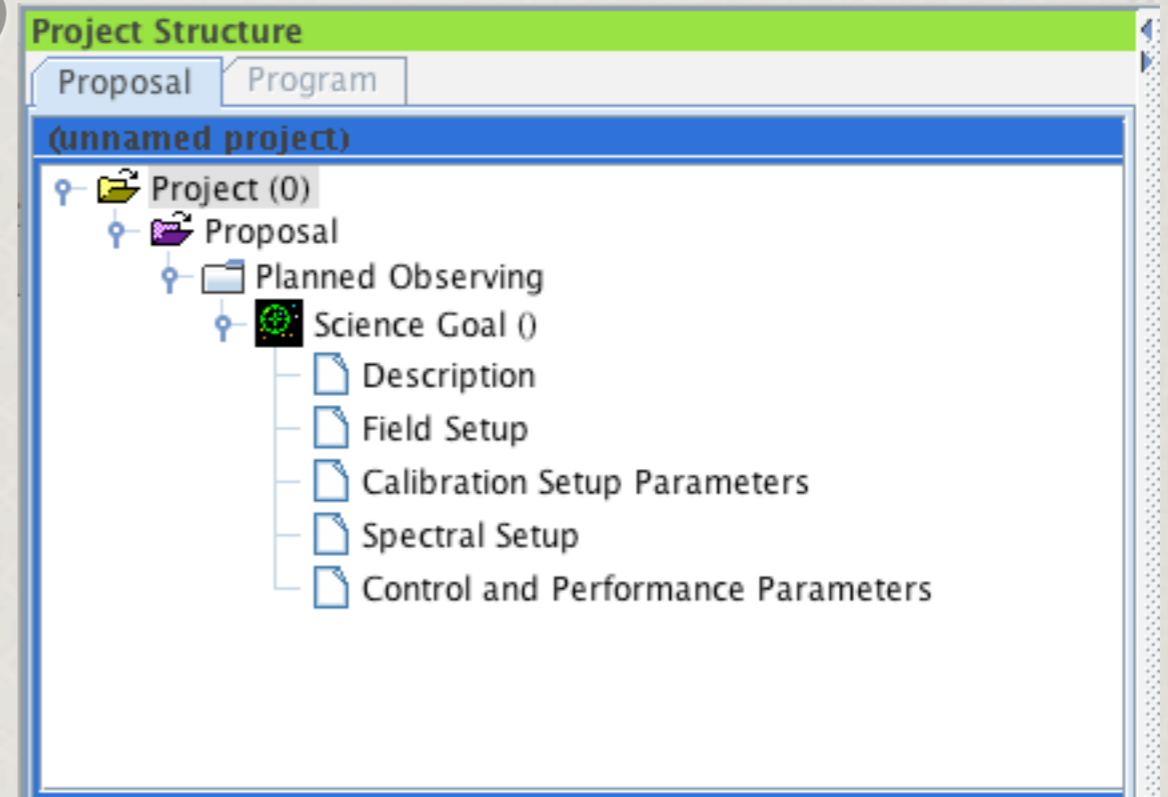
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Importing And Exporting    Template Library    Need More Help?    View Phase 2 Steps



# Project Structure (Phase I)

- ✦ *Project (Main Project Information)*
- ✦ *Proposal (Proposal Information)*
  - ✦ *Planned Observing*
    - ✦ *Science Goal*
      - ✦ *Description*
      - ✦ *Field Setup*
      - ✦ *Calibration Setup Parameters*
      - ✦ *Spectral Setup*
      - ✦ *Control and Performance Parameters*



# New Science Proposal

★ *Four Main Steps at Phase I Stage:*



★ ***New Science Proposal***

★ *Create Science Goals*

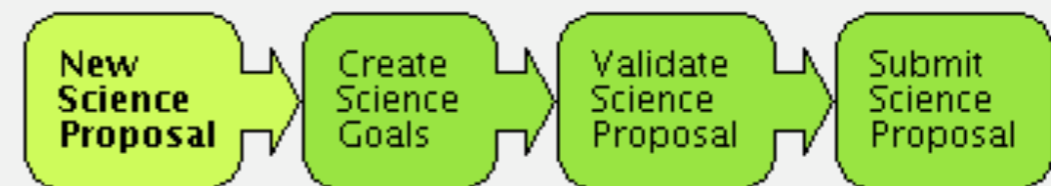
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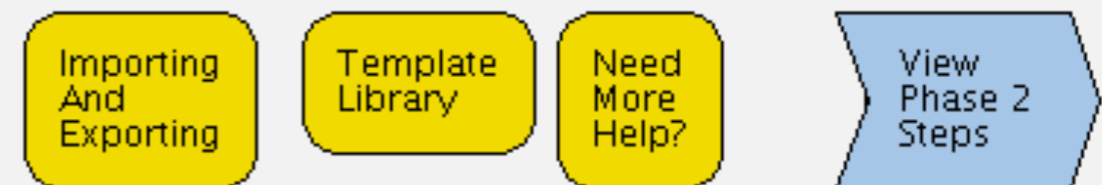
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# New Science Proposal

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- ★ *Proposal (Proposal Information)*

- ★ *Planned Observing*

- ★ *Science Goal*

- ★ *Description*

- ★ *Field Setup*

- ★ *Calibration Setup Parameters*

- ★ *Spectral Setup*

- ★ *Control and Performance Parameters*

The screenshot shows a software interface titled "Editors" with a green header bar. Below the header are four tabs: "Spectral", "Spatial", "Project (0)", and "Catalog". The "Project (0)" tab is selected and highlighted in blue. The main content area is divided into two sections. The first section, "Principal Investigator", contains a text input field and a "Set PI" button. The second section, "Main Project Information", contains three rows of data: "Project" with an empty text input field, "Assigned Priority" with an empty text input field, and "Project Code" with a dropdown menu currently showing "None Assigned".

# New Science

- ★ *Project (Main Project Information)*
- ★ ***Proposal (Proposal Information)***
- ★ *Planned Observing*
- ★ *Science Goal*
- ★ *Description*
- ★ *Field Setup*
- ★ *Calibration Setup 1*
- ★ *Spectral Setup*
- ★ *Control and Performance*

Editors

Spectral Spatial **Proposal** Catalog

Proposal Information

Proposal Title

Proposal Cycle 2010.3

Abstract (max. 300 words)

Commit Changes Launch Editor

Scientific Category Galaxies and Galactic Nuclei

Proposal Type Standard

Student Project

Continuation

Related Proposals

Previous Proposals

Recent Publications

Investigators

Title	Full name	Email	Affiliation	ALMA ID	Executive
PI	Not set	Not set	Not set	Not set	NONALMA

Set PL... Add Col... Remove Col

Science Case and Supporting Documents


Science Case(Mandatory, PDF, 2 pages max.)	<input type="text"/>	Attach	Detach	View
Technical Case(Optional, PDF, 2 pages max.)	<input type="text"/>	Attach	Detach	View
Figures(Optional, PDF, 2 pages max.)	<input type="text"/>	Attach	Detach	View
Tables(Optional, PDF, 2 pages max.)	<input type="text"/>	Attach	Detach	View

Observatory Use Only

# Science Goals

- ✦ *Four Main Steps at Phase I Stage:*
  - ✦ *New Science Proposal*
  - ✦ ***Create Science Goals***
  - ✦ *Verify Science Proposal*
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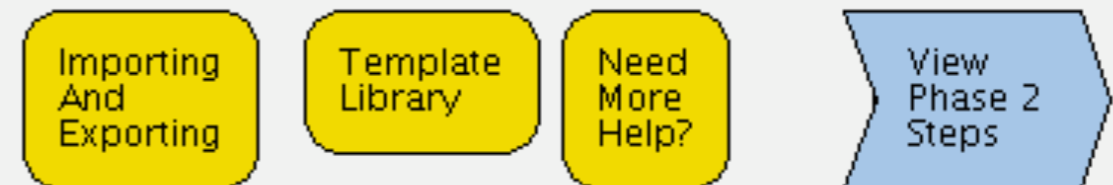
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# Science Goals

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- ✦ *Proposal (Proposal Information)*
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    - ✦ *Description*
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    - ✦ *Control and Performance Parameters*

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- ✦ ***Science Goal***
  - ✦ ***Description***
  - ✦ *Field Setup*
  - ✦ *Calibration Set*
  - ✦ *Spectral Setup*
  - ✦ *Control and Per*

The screenshot shows a web-based editor interface titled "Editors" with a green header bar. Below the header are four tabs: "Spectral", "Spatial", "Description" (which is selected and highlighted in blue), and "Catalog". The main content area contains a text input field with the following text: "Enter a text description for the purpose of this science goal. This text is optional but you may find it useful to keep a note." Below this text is a label "Description (optional)" and a large, empty rectangular text area for input. At the bottom of the interface are two buttons: "Commit Changes" and "Launch Editor".

- ★ Project (Main Project)
- ★ Proposal (Proposals)
- ★ Planned Observations
- ★ **Science Observations**
- ★ Descriptions
- ★ **Field Setup**
- ★ Calibrations
- ★ Spectra
- ★ Control

**Editors**

Spectral Spatial **Field Setup** Catalog

Input the source you wish to look at and your mapping specification.  
Alternatively you may define this with the Visual Editor - select the spatial tab.

**SinglePoint**

Source

Source Name  Resolve

Choose a Solar System Object?  Name of object

System  Sexagesimal display?

Source Coordinates

RA  Parallax

Dec  PM RA

PM DEC

Source Velocity     z

Target Type  Single Point Field  1 rectangular field

Field Center Coordinates

Coords Type  ABSOLUTE  RELATIVE

System  Sexagesimal display?

RA

Dec

Add Target Delete Target Load Target List



# Science Goals

## ★ *Project (Main Project Information)*

**Editors**

Spectral Spatial Calibration Setup Parameters Catalog

Select calibration setup.  
If "system" is selected, the ALMA system will select default calibrators.

Survey Calibrators

Let the system decide how to calibrate your survey by selecting *System selects calibration strategy*, or specify your own calibration strategy and calibrator selection criteria with the *User-defined calibration* option.

? With the user-defined option selected, you can add and remove calibrations using the *Add Calibration...* and *Delete Selected Calibration* buttons. The sources used to calibrate your survey will be selected from the ALMA Calibrator Catalog at execution time; edit the calibrator selection criteria by clicking the *Edit Calibrator Selection Criteria...* button.

System selects calibration strategy

User-defined calibration

## ★ ***Calibration Setup Parameters***

### ★ *Spectral Setup*

### ★ *Control and Performance Parameters*

# Science Goals

**Editors**

Spectral Spatial **Spectral Setup** Catalog

You can set up spectral elements (windows) to be observed. Up to 4 can be observed at the highest frequency resolution depending on the bandwidths you specify. If you want to setup more than 4, you need to arrange them into 4 or fewer sets of spectral elements/windows. Those sets are called "Basebands", and the width of a baseband is 2GHz.

Spectral Type

Spectral Type: Choose the type of spectral observation you wish to make

Polarization Products desired

Up to 4 spectral elements/windows

Center Freq Rest	Center Freq Sky	Transition	Bandwidth,Resolution	Continuum

Select Lines Add Delete

Feedback

★ *Project*

★ *Pr*

★

★

★ ***Spectral Setup***

★ *Control and Performance Parameters*

# Science Goals

**Editors**

Spectral Spatial **Control and Performance Parameters** Catalog

These parameters will be used to determine the antenna configurations your observing requires, along with the integration times required. The representative frequency is the frequency used to evaluate these performance targets.

Control and Performance Parameters

Representative Frequency  GHz

Antenna Beamsize ( $\lambda/D$ ) 12m  arcsec 7m  arcsec

Angular Resolution  arcsec

Largest Scale  arcsec

Desired Sensitivity per Beam  Jy equivalent to  K

Dynamic Range

Peak Flux Density  Jy

Polarisation Percentage

Line Width  km/s

Request ACA Obs.  Yes  No

Is Time Constrained  Yes  No

★ *Project*

★ *Project*

★ *F*

★

★ ***Control and Performance Parameters***

# Science Goals

- ✦ *All the spectral elements defined a science goal should lie within a spectral range which can be observed at a time by a receiver band*
- ✦ *If you request observations required **more than one frequency/receiver setups**, you have to define a science goal for each setup.*

# Validating Proposal

## ★ *Four Main Steps at Phase I Stage:*

★ *New Science Proposal*

★ *Create Science Goals*

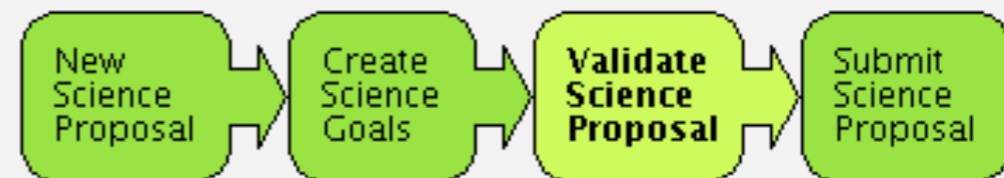
★ ***Verify Science Proposal***

★ *Submit Science Proposal*

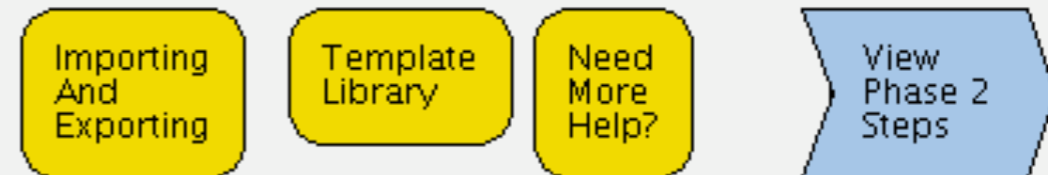
### Contextual Help

1. Validate your science proposal by either:
  - Selecting *File > Validate*
  - Clicking on the  icon in the toolbar
  - Or clicking on this [link](#)
2. Look at the *Feedback* panel and view the list of reported problems. Please fix the reported problems before attempting to submit your science proposal.

### Phase I: Science Proposal



Click on the overview steps to view the contextual help



# Validating Proposal

## ✦ *Four Main Steps at Phase I Stage:*

✦ *New Science Proposal*

✦ *Create Science Goals*

✦ ***Verify Science Proposal***

✦ *Submit Science Proposal*

Feedback			
Problems	Information	Log	
Project PASSED validation with 0 errors and 0 warnings			
	Description	Suggestion	Resource
✓	No errors found		

# Submitting Proposal

## ✦ *Four Main Steps at Phase I Stage:*

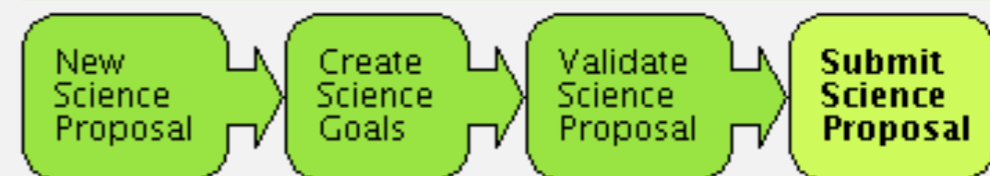
- ✦ *New Science Proposal*
- ✦ *Create Science Goals*
- ✦ *Verify Science Proposal*
- ✦ ***Submit Science Proposal***

### Contextual Help

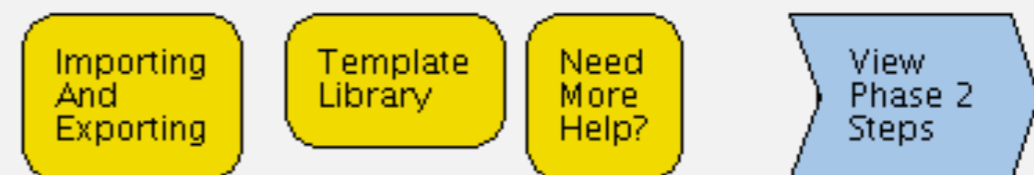
Submit your science proposal to the ALMA server by either:

- Selecting *File > Submit Project*
- Or clicking on this [link](#)

### Phase I: Science Proposal



Click on the overview steps to view the contextual help



# Summary Information

- ✿ *Printable Summary of proposal Summary Information*
- ✿ *proposal information*
- ✿ *science goals*
- ✿ *Generating a pdf of whole proposal*



# Summary Information

- Printable Summary
- proposal information**
- science goals
- Generating a pdf of

Summary Information : Project

Panel# : -1    ProposalID : entityid\_-1133214557

**2010.3**

Title : REAL: Imaging the High-Velocity Outflow associated with the Massive Young Star G5.89-0.39

Astronomical Category : Galaxies and Galactic Nuclei Date Submitted : ---

PI Name : Yu-Nung Su    ARC : EA    Institution : ASIAA    Contact : , ynsu@asiaa.sinica.edu.tw

--Select A Proposal Type--     Standard     Large     Target Of Opportunity

Continuation     Resubmission    Related Proposals :     Student/PhD

Stringency :    PEL :    Atmos.Quality Needed :     A     B     C     No grade     SB's Done

---

**Abstract**

The bulk of the molecular outflow detected in low-J CO lines is thought to mainly comprise of swept-up ambient molecular gas entrained by high-velocity primary wind/jet from the central young star. The composition of the primary jet, however, is poorly understood. Direct imaging of the primary jet is not easy, while an alternative strategy is to investigate the interactions between the primary jet and its entrained ambient gas. High-velocity outflowing gas often exhibits distinct behaviors with its low-velocity counterpart, and likely has close connection to the primary jet. In such a case, the characteristics of high-velocity gas should better reflect the physical conditions of the primary jet. Here we propose to carry out ALMA observations in CO and SiO to study the physical properties of the high-velocity outflow from G5.89-0.39, a high-mass young star. We will explore the physical properties of the high-velocity outflowing gas using the large velocity gradient calculations.

---

#Science Goals : 2

**Total Time : 4.8 h**

<input type="checkbox"/> Band 1 ...	<input type="checkbox"/> Band 2 ...	<input type="checkbox"/> Band 3 ...	<input type="checkbox"/> Band 4 ...	<input type="checkbox"/> Band 5 ...
<input checked="" type="checkbox"/> Band 6 ... 0.3h	<input checked="" type="checkbox"/> Band 7 ... 4.5h	<input type="checkbox"/> Band 8 ...	<input type="checkbox"/> Band 9 ...	<input type="checkbox"/> Band 10 ...

---

**12m Array**    Max Data Rate : 70.1 MB/s    Data Volume : 1.1 TB

<input type="checkbox"/> Joint	<input checked="" type="checkbox"/> Synthesis	<input checked="" type="checkbox"/> +Mosaic	<input type="checkbox"/> OTF-SD	<input type="checkbox"/> SubArray
<input checked="" type="checkbox"/> Line	<input type="checkbox"/> +polarization	<input type="checkbox"/> Continuum	<input type="checkbox"/> +polarization	

---

<Not Available Yet>

**ACA 7m Array**    Max Data Rate : 0.0 MB/s    Data Volume : 0.0 GB

<input type="checkbox"/> Joint	<input type="checkbox"/> Synthesis	<input checked="" type="checkbox"/> +Mosaic	<input type="checkbox"/> OTF-SD	<input type="checkbox"/> SubArray
<input checked="" type="checkbox"/> Line	<input type="checkbox"/> +polarization	<input type="checkbox"/> Continuum	<input type="checkbox"/> +polarization	

---

<Not Available Yet>

**ACA Total Power**    Max Data Rate : 0.0 MB/s    Data Volume : 0.0 GB

<input type="checkbox"/> Joint	<input type="checkbox"/> Synthesis	<input checked="" type="checkbox"/> +Mosaic	<input type="checkbox"/> OTF-SD	<input type="checkbox"/> SubArray
<input checked="" type="checkbox"/> Line	<input type="checkbox"/> +polarization	<input type="checkbox"/> Continuum	<input type="checkbox"/> +polarization	

---

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# Summary

- Printable Summary of proposal information
- science goals
- Generating a pdf of what

Summary Information : Project

TA's ID :      ProposalID :      **2010.3**

SG : 1 of 2      Science Goal (ScienceGoal)      has 1 Target

**ALMA Band 06 General Properties : 211 - 275 GHz (25B)**

IF GHz	Trx	50% Tsys	50% zen. opacity	1MHz	1mjy@1"
5.0-10.0	83-83K	0-0K	0.00-0.00	1.2 km/s	0.018-0.030K

HPBW 12m	HPBW 7m	resolution 12m Array	resolution 7m Array
19-24"	32-42"	0.000-0.0"	0-0"

**Science Goal Control Parameters**

Resolution	Largest Str...	Rms mjy	Dynamic R...	Linewidth	Source Flux	Polarization
0.5"	5"	4.4 mjy	0	200.00 k...	10.0 Jy	0%

**Use of 12m Array 50 antennas**(information not available in italic font and blank cells)

Mode	Time	Map Size	# ptgs or hpbw	Spacing	Joint?	Data Vol	Data Rate
Synthesis	0.3 h	0" x 0"	1	0" x 0"	no	69.9 GB	70.1 MB/s
OTF-TP							

<Not Yet Available> **Use of ACA 7m Array 12 antennas**

Mode	Time	Map Size	# ptgs or hpbw	Spacing	Joint?	Data Vol	Data Rate
Synthesis							
OTF-TP							

<Not Yet Available> **Use of ACA TP Array 4 antennas**

Mode	Time	Map Size	# ptgs or hpbw	Spacing	Joint?	Data Vol	Data Rate
OTF-TP							

**Target list for Science Goal 01**

Target	Ra,Dec(J2000)	l,b	Motion	V,def,frame --OR--z	Linewidth	Source Flux	Pofn
1-G5.89-0.39	18:00:30, -24:04:01	0.000, 0.000	Sidereal	10km/s,lsr,RADIO	0 km/s	0.000 Jy	0%

**Frequency/correlator/spectral info**

Set-0 - setup

Frequency GHz	Line ID	# Stokes (1,2,4)	# Channels per stokes	Bandwidth	Chan Spacing	Polarized %
217.104984	SiOv=0 5-4	2	4096	2000.0 MHz, 2761.8 km/s	488.28 kHz, 0.674 km/s	1%

Set-0 - rms

Frequency GHz	50% Tsys	12m Array Synthesis	12m Array OTF-TP	ACA7m Synthesis	ACA7m OTF-TP	ACA12m OTF-TP
217.104984	0-0K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K

Set 1 - setup

Frequency GHz	Line ID	# Stokes (1,2,4)	# Channels per stokes	Bandwidth	Chan Spacing	Polarized %
230.538000	COv=0 2-1	2	4096	2000.0 MHz, 2600.9 km/s	488.28 kHz, 0.635 km/s	1%

Set 1 - rms

Frequency GHz	50% Tsys	12m Array Synthesis	12m Array OTF-TP	ACA7m Synthesis	ACA7m OTF-TP	ACA12m OTF-TP
230.538000	0-0K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K	0.0 mjy, 0.0 K

Set 2 - setup

Frequency GHz	Line ID	# Stokes (1,2,4)	# Channels per stokes	Bandwidth	Chan Spacing	Polarized %

Set 2 - rms

Frequency GHz	50% Tsys	12m Array Synthesis	12m Array OTF-TP	ACA7m Synthesis	ACA7m OTF-TP	ACA12m OTF-TP

Set 3 - setup

Frequency GHz	Line ID	# Stokes (1,2,4)	# Channels per stokes	Bandwidth	Chan Spacing	Polarized %

Set 3 - rms

Frequency GHz	50% Tsys	12m Array Synthesis	12m Array OTF-TP	ACA7m Synthesis	ACA7m OTF-TP	ACA12m OTF-TP

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