Observing Tool Concepts

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GUI principles

- Separate GUI from object (View/Model)
- Many different ways to view object
  - Level of detail different
- Hide detail to avoid info overload
  - But allow details on request
- Consider a project (result of proposal)
  - Much detail for proposer (form fill-in)
  - Operators only want PI name and phone

Observing Tool Features

- Goal – create observing description (OD) for a single project
- OD is a list of Observing Blocks (OBs)
  - An OB is the smallest chunk for scheduling
- The OD is part of a project object
- Build OBs with
  - Sequences
  - Primitives
- OB = Sequence + can be scheduled
- So OBs and Sequences contain Sequences and Primitives, ad infinitum (they are containers)

Properties of OBs & Sequences

- Conditions to schedule OB or to terminate sequence
  - LST range
  - Elevation
  - Atmosphere
    - Opacity
    - Phase Stability
  - Antennas
    - Number
    - UV coverage
  - Receivers
- List of Sequences and Primitives
- Number of times to loop

More Props of OBs and Sequences

- Name
- Project reference
- Status
  - Not started
  - Completed
  - Incomplete

Primitives

- Integration
- Point peak-up
- Focus peak-up
- Delay peak-up
- Tip curve
- Move antenna (stow, etc)
- Wait
  - For absolute time
  - For relative time

Integration Properties

- Source
- Mode (each has own set of properties)
- Correlator setup
- Calibration role
  - None – this is the program source
  - Amplitude
  - Phase
  - Bandpass

Single Field Mode Properties

- Calibration source
  - Specify
  - Auto-select
- Calibration algorithm
  - Normal
    - Integration time on program source
    - Integration time on calibrator
  - Auto
- Number of loops

Back to the Observing Tool

- Create the OD using drag and drop
- Drag from Palette containing
  - Basic raw building blocks
    - OB, sequence, primitives, correlator setup
  - ALMA wide preconfigured building blocks
  - Your named and saved building blocks
  - Other people's building blocks if they allow
- Can group and do global changes of common properties (change cal from 3C273 to 3C279)
- You can run ALMA with this same tool

Different Views

- The Operator has a list of OBs to run ALMA
- A project is a list of OBs (different list!)
- Can use “Tree View” (like Windows Explorer)
- Can use new window for each level of detail (like Windows MyComputer)