Specification of Science Ready Products in the PST
Oct 11, 2018
Draft

- SRDP Specification should be captured at the Allocation Request Level for the VLA and VLBA (HSA, GMVA, and GBT are excluded from SRDP).
- We need to know both for calibration and imaging what lines (if any) the PI is going after.
    - I think we already have the velocity associated with a target but we need to make sure we have the reference frame as well.
        - What about solar system (ephemeris) objects?
    - I think we also need the rest frequency and width for each line and to associate lines with targets.
- At the Allocation Request Level SRDP Calibration should be selected by default but may be unchecked (and a justification provided).
    - These basically come down to observing modes. For now I think we want polarization or not, but may want to add others (astrometry in the future).
- For image products I think these are again associated with each target. Note more than one product could be specified for a target (multiple lines, continuum)
- For each image we need:
    - An estimate of the amount of effort (compute + DA) implied by the request.
    - Angular Extent and Resolution
        - Consider radio buttons giving resolution for various configurations.
        - Suggest that cubes have uniform restoring beam (lowest frequency)
    - Largest Angular Scale
        - This would determine the configuration and/or combination of configurations that the user would need
    - Spectral Extent and Resolution
        - Need to validate the requested spectral resolution (less than channel width, not "silly").
        - Validation / Warning on the Processing effort.
    - Target RMS
        - Needed to calculate observation time, not caveats about not guaranteed.
            - Make it clear what the default assumptions are used to estimate the integration time, including average RFI excisions, robust weighting, tapering
    - Expected Peak Flux (continuum and line)
        - To deal with dynamic range limits and required bandpass accuracy.
    - Polarization Products (I, IQU, IQUV)
    - For each line if the line is in emission or absorption?
        - Could be used to control if we do continuum subtraction