

I&C Requirements

March 11, 2021

Definitions

- **Calibration:**

Measurements of the instrument in the field during science observations

- These requirements are defined explicitly by the science requirements and instrument designs
- **Not in I&C scope**, other than to the extent needed to do commissioning.

- **Commissioning:**

Measurements of the instrument in the field prior to science observations

- Verification that the instrument is ready to observe, get the science.
- Expectations of "end of commissioning" vary between NSF and DOE

- **North-American Validation (in-lab):**

Measurements of the instrument prior to deployment

- **Not in I&C scope.**

Commissioning Reqt's

Some "very probables" (please add)

Telescope performance:

- Angular resolution (beams)
- Scanning performance
 - Scans as commanded, following okay
 - Microphonics okay
- Pointing reconstruction
 - sensors working

Calibration Hardware performance:

- ? Do we need to ensure it works, on site?

Receiver performance:

- Cryo okay
 - temperature baselines
 - temperature variations
- Readout okay
 - Yield
 - Squid noise
- Detectors okay
 - Yield
 - white noise NET, stability, loading
 - lines, 1/f
 - time constants

Commissioning "probably not Req't's"

(Need to discuss... and please add.)

Partial calibration:

- FTS
- Pol. Cal.
- time constants
- gain cal (chopped source/bias steps)
- Detailed beam measurements

Extra:

- sidelobe maps