

# Calibration

# Calibration processes

- basic setup and system checks
- determination of baseline and phase delay
- improve precision

# Basic Setup

Physically check position of feeds and reflector surface

- total station, lazer ranging

Electric check at the antenna:

- for each cable to Optical Transmitter (OT), check length (physical, or network analyzer)
- for each feed and cable, check electric output strength (Spectrometer, antenna temperature, or?) If not balanced, what can we do?

Optical fiber and OT checks:

- get the telephone, video camera, and control system work first.
- OT check
- check each fiber signal loss and delay(OTDR, Optical Time Domain reflectometer, or?)
- identify fiber-feed/polarization correspondance
  
- Temperature control: only for noise diode? Or include OT?

Get the whole thing working and controlled from observatory

# System Checks

- Band pass, signal strength and delay (use diode?) for each channel
- digitizer output (is raw data mode available?)
- correlator output fringe
- part management system (CHIME)
- data storage and compression system

# baseline and phase delay

- Total station measurement, division tape on the feed support
- observe strong calibrator (Sun, Cas A, Cyg A, Tau A...?)
- calibrator source list
- Correlator: add time delay measured with network analyzer?
- determine each baseline from fringe
- obtain a set of base parameters, check variation

# Improve precision

complex gain, beam/polarization, bandpass, cross talk

- temperature variation
- injection signal
- pulsar
- ionosphere delay
- redundant baseline