

Potential Predecessors

Calibration Measurements	Amplitude Flux	Phase	Bandpass	Polarization	Pointing	Antenna Location	Antenna and Electronic Delay	Optics	Primary Beam
Amplitude Flux		NRP. Required for absolute amplitude and time-dependent phase decorrelation calibration.			NOP. Need to well-pointed for correct amplitude scaling and better SNR.	NRP. Antenna position errors will result in sky-position-dependent phase slopes across the bandpass which will cause some decorrelation.	NOP. Needed for SNR.	NOP. Focus Scan at band 3 may amplify errors in amplitude at higher freq.	NRP. Need to know PB response for proper amplitude calibration of extended objects (like planets).
Phase			NRP. Correct for phase response of BP.		NOP. Need to well-pointed for better SNR.	NRP. Part of data analysis.	NOP. Needed for SNR.	NOP. Path length changes due to thermal deformation of optics components or support	
Bandpass	NOP. Derive frequency dependence of atmospheric attenuation.	NRP. Phase calibration required for final BP calibration.			NOP. Need to well-pointed for better SNR.	NRP. Location errors will result in position-dependent phase slopes across the BP. Different phase slopes will be associated with different positions (and sources) on the sky, leading to incorrect BP calibration.	NOP. Needed for SNR.	NOP. Multiple reflections in the optics cause a ripple pattern in frequency domain	
Polarization		NRP. Phase calibration required for polarization calibration.			NOP. Need to well-pointed for better SNR.		NOP. Needed for SNR.	NOP. Offset Cassegrain optics with misalignment causes variable polarization character	NRP. Need to know PB structure for proper polarization calibration.
Pointing		NRP. Phase calibration required for pointing analysis.	NOP. Calibration of relative baseband phases to improve SNR.			NOP. Need good fringe tracking for good SNR.	NOP. Needed for SNR.	NOP. Optics misalignment brings beam squint between Rxs.	NRP. Need to measure the polarization beam.
Antenna Location		NRP. Phase calibration required for antenna position analysis.	NOP. Calibration of relative baseband phases to improve SNR.		NOP. Need to well-pointed for better SNR.		NOP. Needed for SNR.	NOP. Illumination offset caused by optics misalignment results in error in antenna location.	
Antenna and Electronic Delay		NRP. Need to remove atmospheric phase errors.	NOP. Passband response dependent upon delay.					NOP. Passband response dependent upon axial focus.	
Optics		NRP. Need to remove atmospheric phase errors.	NOP. Calibration of relative baseband phases to improve SNR.		NOP. Need to well-pointed for better SNR.		NOP. Needed for SNR.		NOP. Unwanted systematic sidelobe pattern arises in subreflector misalignment
Primary Beam		NRP. Phase calibration required for final PB measurement.	NRP. Correct for frequency-dependent amplitude response.	NOP. For polarization beam measurements or corrections on-axis polarization calibration must be done first.	NOP. Need to well-pointed for better SNR and proper primary beam measurement (needed for imaging later).	NOP. Will use interferometric holography for PB measurement.	NOP. Needed for SNR.	NOP. Optics must be aligned for proper PB determination.	

NOP = Necessary Observational Predecessor
NRP = Necessary Reduction Predecessor