

Points to be taken into consideration when planning polarimetric observations with the uGMRT

1. While preparing the proposal and using the GMRT exposure time calculator (<http://www.ncra.tifr.res.in:8081/~secr-ops/etc/rms/rms.html>)
 - for Point 7, choose “Number of polarizations = 2”,
 - for Point 17, under “Extra Bandpass/Polarization Time” choose additional time for multiple scans of the polarization calibrator for good parallactic angle coverage as well as slewing time. (Typically, the total “overhead” time for a polarization experiment can be $\approx 50\%$)
2. During proposal preparation on GMRT NAPS (<https://naps.ncra.tifr.res.in/naps/login>)
 - under the “Observation Details” tab, choose the option “GWB Interferometer Polar”,
 - for “Special Requirements”, add “Visibility of a polarized calibrator (3C286, 3C138)** and/or an unpolarized calibrator (3C84, 3C147, J0713+4349)** throughout each observing block is critical for robust polarization calibration. The polarized calibrator will need to be observed in several short scans for good parallactic angle coverage.”
3. While creating the command files for the observations (<http://www.ncra.tifr.res.in/~secr-ops/cmd/cmd.html>)
 - choose “Stokes Parameter: Full_Polar(4)”,
 - under “Special requirement or additional info (if any):”, add “Visibility of a polarized calibrator (3C286, 3C138)** and/or an unpolarized calibrator (3C84, 3C147, J0713+4349)** throughout each observing block is critical for robust polarization calibration. The polarized calibrator will need to be observed in several short scans for good parallactic angle coverage.”
 - if you chose the secondary backend configuration as GSB during proposal preparation, then add under “Special requirement” that “Stokes Parameter: Full_Polar(4) must be used for GSB as well.”

***Please pick one polarized/unpolarized calibrator from the list above that works for your experiment. You can also consult <https://science.nrao.edu/facilities/vla/docs/manuals/obsguide/modes/pol> for additional calibrators. Note however that the testing of these calibrators for uGMRT data is still ongoing. So far, OQ208 does not work well as an unpolarised calibrator for <1 GHz observations with the uGMRT due to its low flux density.*