

# **Pulsar VLBI - possible IND-AU collaboration opportunities**

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# GMRT – Parkes UWB receiver

- Nearly seamless coverage in 700-1400 MHz.
- Baseband recording in 200/400 -MHz subbands overlapping with GMRT
  - flexible downstream processing
  - intensity correlations (recent work by Simard et al., 2019 and Marthi et al., in prep)
  - baseband data can feed into a VLBI pipeline : DiFX or SFXC
  - **scintillation, ISM holography, screen distances through wideband VLBI**
  - local installation of DiFX (and SFXC) correlator
  - VLBI beyond pulsars

# GMRT – MWA VLBI

- Low frequencies, similar science goals.
- 150-MHz Crab correlations have been done (Kirsten, Macquart, Gupta, et al.)
- Better clock fidelity now possible (helped by the H-maser).

# (Conservative) Timeline

- GMRT Baseband recording : Jan-Apr '20 (coding + test obs. + data integrity checks, etc.)
  - Simultaneous observing and data processing : May-Aug '20
  - Closing the loop ( DiFX/SFXC corr., bug fixes, feeding back into the pipeline) : Sep-Dec '20
- Could aim for a 1-year timeline to set up a regular VLBI process pipeline.