

MeerKAT open time call 3 December - Proposal summary

A search for persistent radio emission associated with localised FRBs	
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Abstract:

Fast Radio Bursts (FRBs) are short duration bursts of radio emission which are known to be emitted by sources at extragalactic distances. However the nature of the object(s) that are generating these bursts is still unknown, with possibilities from merging neutron stars to newly born magnetars having been proposed. The discovery of the repeating FRB 121102 has added to the conundrum of the nature of the sources, that is, are there more than one type of FRB. It has though, allowed for an accurate localisation and revealed that it is associated with a dwarf galaxy and a persistent radio source which may provide vital clues to the nature of the source. Recently ASKAP has been able to localise some FRBs using just a single pulse and thus provides an opportunity to use MeerKAT to undertake deep searches for persistent radio emission associated with these bursts. This will allow us to test whether all FRBs have associated persistent emission or is it something only seen for repeating sources. We propose to follow up three localised FRBs with MeerKAT for two epochs, the latter allowing us to determine whether the persistent emission is variable.

Observation parameters:

Targets	FRB1 TBD, FRB2 TBD, FRB3 TBD		
Total time	16 in 6 epochs	Dump rate	8 s
Daytime	No preference	Variable/Transient	Variable or Transient
Baselines	We wish to have the number of outer ring antennas to be maximised.		

List of files uploaded. Files in order of upload. Usually just revising their proposal, so click the last one, but some people attached several different files, so they may all be useful.

https://drive.google.com/open?id=1051wpRBVIA5Xr-_vt5Kwkwu82WflaMsm .

File comments:

Nighttime would be useful if available as we could then do simultaneous MeerLICHT but it is not essential.