

MeerKAT open time call 3 December - Proposal summary

A2384; study of diffuse radio emission in X-ray filament with MeerKAT	
Proposal number 17	Thu Jan 31 2019 06:17:45 GMT+0200 (SAST)
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Abstract:

In current scenarios of large scale structure formation, clusters of galaxy form hierarchically, with smaller objects (galaxies and groups of galaxies) forming first. High resolution simulations of large scale structure formation reveal that in the standard Λ CDM cosmology, clusters mainly form within filaments of enhanced density, and that the biggest clusters often form at the intersection of these filaments. Recent optical and X-ray observations also support this structure formation idea. The A2384 is one of the rare systems that has a hot X-ray filament or bridge connecting two clusters. We have (very)recently obtained 325 MHz (narrowband and wideband) uGMRT observations of this system and from our initial inspection, we detect extended diffuse radio emission that is likely associated with the hot X-ray filament. The nature of this diffuse source is unclear, hence we are proposing MeerKAT observation of this unique cluster to characterise the diffuse radio emission properties and study the spectral indices distribution over wideband of MeerKAT. This observation is very important to probe cluster scale magnetic fields and cosmic ray acceleration process at the outskirts of clusters.

Observation parameters:

Targets	A2384 : 21 52 14.2 -19 42 19.8		
Total time	4 in 1 epochs	Dump rate	8 s
Daytime	Nighttime preferred	Variable/Transient	No
Baselines	No more than one or two of the nine outer ring antennas may be excluded from the array. We request for atleast 60 antennas.		

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=1E8pJSIUqJ978f2Me9EsJhbxQZvn6e3rz> .

File comments: