

HI Intensity Mapping with MeerKAT and 1/f noise analysis

HI Intensity Mapping (HIIM) as a probe of cosmological large-scale structures (LSS) is considered promising and has been tested with cross-correlation with optical galaxy survey using Green Bank Telescope (GBT) and Parkes Telescope. MeerKAT and SKA have the potential to achieve the largest and deepest HIIM survey in the near future. However, HIIM is also most challenging due to the bright foreground emission and instrumental effect. We proposed a pilot survey with MeerKAT array to test our data analysis pipeline. In the meanwhile, we also measured the instrumental noise feature, such as 1/f noise, by tracking the South Celestial Pole (SCP). With the noise feature measurement, we can build the noise model for the future HIIM survey with MeerKAT.

Suggested duration

15 min - 20 min

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