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Dark Matter in Radio Astronomy

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Dark matter is the dominant matter in the Universe. Its particle nature has been confirmed by the X-rays and weak lensing measurements of the bullet clusters. Currently, in the whole spectra of dark matter mass, there are four domains of candidates that arise much interests in theoretical physics and astronomy community: Axion-Like-Particle (ALP, mass in between 10^{-22} eV to 10^{-10} eV); Axion dark matter (mass in between 10^{-10} eV to 10^{-2} eV); Weakly Interacting Massive Particle (WIMP; mass in between 10^9 eV to 10^{13} eV) and Primordial Black Holes (PBH; mass $\geq 10^{13}$ eV). I will review how can we detect these different particle scenarios by using the South Africa's MeerKAT and SKA telescopes and what are the current limits from the present constraints. I will also discuss how can we combine astronomical measurements with ground-based indirect detection, such as PAUL.

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Session Classification: Cosmology and Dark Matter searches