



Contribution ID: 281

Type: Oral Presentation

Dark matter searches with MeerKAT

Thursday, 6 July 2023 11:20 (20 minutes)

The nature of dark matter remains a major unresolved mystery in modern cosmology. In this work we explore the use of the MeerKAT Galaxy Cluster Legacy Survey in placing limits on the allowed annihilation cross-section for a variety of possible WIMP models. In so doing we demonstrate that MeerKAT is competitive with best available results in the literature, excluding WIMPs annihilating into b-quarks with masses below 800 GeV as viable cosmological dark matter. This unexpectedly makes galaxy clusters, with their large baryonic backgrounds, competitive with dwarf galaxy results.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

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Session Classification: Astrophysics & Space Science

Track Classification: Track D1 - Astrophysics