



Contribution ID: 193

Type: **Poster session only**

Scalar multiplet dark matter in non standard Universe.

We examine the impact of a faster expanding Universe on the phenomenology of scalar dark matter (DM) associated with SU(2) multiplets. Earlier works with radiation dominated Universe have reported the presence of desert region for both inert SU(2) doublet and triplet DM candidates where the DM is under abundant. We find that the existence of a faster expanding component before BBN can revive a major part of the desert parameter space consistent with relic density requirements and other direct and indirect search bounds. We also review the possible collider search prospects of the newly obtained parameter space and show that such region can be probed at the future colliders with improved sensitivity via a stable charged track.

arXiv number (if applicable)

2101.10175

Primary author: SAHA, Abhijit Kumar (IIT Guwahati)

Presenter: SAHA, Abhijit Kumar (IIT Guwahati)

Session Classification: Poster Session