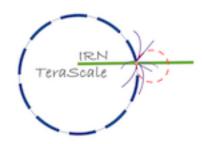
## IRN Terascale @ LPSC Grenoble



ID de Contribution: 44 Type: Non spécifié

## The interactions and the possible probes of a light scalar dark matter

We study a minimal model for a light scalar dark matter (DM) with a mass of a few GeV, requiring a light dark photon mediator to interact with the Standard Model (SM) particles. We analyse the model by focusing on the Breit-Wigner resonance for DM annihilation channels, considering the thermal relic abundance condition that includes the early kinetic decoupling effect. The interactions of the mediator can be constrained by various low-energy terrestrial probes such as proton beam-dumps measuring rare meson decays or electron beam-dump experiments measuring mediator decay into leptons. On the other hand, the interactions of the DM are tested by indirect searches, which include the cosmic ray and gamma-ray observations, and also by the low-mass direct detection experiments. We do a systematic analysis involving the latest and future limits in each category of the experiments/observations.

Auteur principal: CHAKRABORTI, Sreemanti

Orateur: CHAKRABORTI, Sreemanti

Classification de Session: Dark Universe

Classification de thématique: Dark Universe