Complementarities of Dark Matter searches with Spin-Dependent interactions

Tuesday 13 September 2016 17:50 (20 minutes)

I analyze the constraints on Dark Matter from direct and indirect detection and from the LHC in the case in which the interaction between the DM particle and the SM ones is spin-dependent. This can happen for example if the DM is a Majorana fermion and the interaction is mediated by a heavy Z', or in the case in which the mediator is a pseudo-scalar (having in mind the possible 750 GeV resonance). If the DM mass is larger than a few hundred GeV, the dominant bounds come from the IceCube experiments, which looks for neutrinos coming from annihilation of DM particles in the Sun. I also discuss the consistent use of simplified models in putting bounds on DM properties.

The talk will be mostly based on 1605.06513 and 1603.05592.

Summary

Author:MORGANTE, Enrico (University of Geneva)Presenter:MORGANTE, Enrico (University of Geneva)

Session Classification: Dark Matter & colliders

Track Classification: Dark matter & colliders