

Different aspects of single top quark and DM channel

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Recently it has been pointed out that associated production of dark matter with single top quark could also provide an interesting reach for dark matter (DM) searches at LHC. I will discuss this in context of simplified dark matter models and in two Higgs doublet model. The top quark produced via this channel is polarized and the polarization depends on the CP of the mediator (simplified dark matter model with spin-0 mediators). I will also talk about the top polarization sensitive angular observables, which along with the cross-section, could be used to probe the CP property of the mediator.

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