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Strongly interacting dark sectors in the early Universe and at the LHC

Thursday 26 September 2019 14:30 (30 minutes)

I will discuss the cosmology and LHC phenomenology of a consistent strongly interacting dark sector coupled to Standard Model particles through a generic vector mediator. I will lay out the requirements for the model to be cosmologically viable, consider the dominant freeze-out processes and discuss bounds from direct detection. At the LHC the model predicts dark showers, which can give rise to semi-visible jets or displaced vertices. I will first focus on constraints from existing LHC searches and then discuss the sensitivity of proposed dedicated analyses for semi-visible jets. I will also emphasize the complementarity of different search strategies.

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