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Uncovering doubly charged scalars with dominant three-body decays using machine learning

Thursday 22 February 2024 11:00 (1 hour)

Abstract: Many underlying models of a composite Higgs predict additional composite scalar resonances which can be searched for at the LHC. In this talk we present a survey of experimental constraints on pair-produced scalar resonances with decay channels motivated by underlying models of a composite Higgs. In the second part, we focus on a particular signature – pair-produced doubly-charged scalars with dominant three-body decays – and show how machine-learning based search strategies can improve the discovery reach at the LHC.

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