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Search for the direct production of chargino pairs decaying via W boson in 13 TeV pp collisions with the ATLAS detector

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A search for the direct production of pairs of charginos, each decaying into a first neutralino (LSP) and a W boson which in turn decays leptonically, is presented. Previous LHC Run 2 analyses have already excluded with a 95% CL the existence of chargino and neutralino in regions where the difference between their masses is much greater than the W boson mass. The aim of the current search is to explore the so called compressed regions, with a chargino-neutralino mass difference of the order of the W boson mass. The analysis strategy uses machine learning techniques to improve the signal from Standard Model background rejection. The analysis targets events with two leptons, missing transverse energy and no hadronic activity in the final state, and uses pp collision data at 13 TeV collected by the ATLAS experiment during Run 2 at LHC, corresponding to an integrated luminosity of 139/fb

In-person participation

Yes

Primary author: GRECO, Matteo (Istituto Nazionale di Fisica Nucleare)

Presenter: GRECO, Matteo (Istituto Nazionale di Fisica Nucleare)

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