

Search for $\chi_1^\pm \chi_2^0 \rightarrow 1\ell + h(b\bar{b}) + \text{MET}$ with ATLAS at LHC Run 2

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Summary

The LHC 8 TeV Run 1 came out with a negative outcome for C1 N2 searches and exclusion limits of $m_{\text{C1,N2}} > 250$ GeV for a massless LSP were set. Taking advantage of the increase in the center-of-mass energy and the luminosity compared with Run 1, we're searching for $\text{C1N2} \rightarrow 1\ell p + h_0(bb) + \text{MET}$ within ATLAS at LHC 13 TeV Run 2. In line with the b-jets in the final state, my ATLAS authorship project is on the b-jet identification. We studied the impact of several simulated scenarios for pixel dead modules, inspired from 2016 data quality flags, on overall b-tagging performance. In fact the pixel modules play a crucial role in tracks reconstruction and vertexing, hence it highly affect the b-jets identification and it is necessary to quantify the loss in performance for such scenarios. On the phenomenology side, we're developing a new version of the SuSy Spectrum calculator "Suspect3" using the inverted bottom-up procedure from physical masses to constraint SUSY parameters in the Higgs and stop sectors.

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Classification de Session: Au-delà du modèle standard