

Monojet signatures at the High-Luminosity and High-Energy LHC

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In some class of BSM models, such as SUSY, DM may be searched using high p_T jets + missing E_T , where DM (X) may be produced from the decay of a heavy particle H. If m_H is close to m_X , the signature is ISR, and may be monojet like, and there are much information on the nature of H and X. I will discuss leading jet distribution contains the information of both m_H , color representation and spin of the particles, but to extract the information fully, one need to predict the distribution with less than 10% accuracy for the parameter region that may be studied at HL-or HE-LHC. Then I turn into the theoretical error in the current best NLO MC based on MC@NLO scheme, such as MG5 and Sherpa, and discuss if such accuracy can be achieved.

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