

Enhancing DM searches in LHC with ML

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Dark Matter particles can be searched for in the Large Hadron Collider in the monojet channel defined as at least one hard jet recoiling against a missing momentum and no leptons. Monojet searches are challenging for classical analyses because they require investigation of subtle differences between the jets originating from the SM background and jets accompanying the production of DM particles. Since Neural Networks have been proven to be highly effective in jet classification, we propose a new analysis relying on Graph Neural Networks and aiming at enhancing the searches for Dark Matter in the monojet channel in the LHC.

Auteur principal: Dr MASELEK, Rafał (LPSC (Grenoble))

Orateur: Dr MASELEK, Rafał (LPSC (Grenoble))

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