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Searching for Dark Matter at the LHC with GNN

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About 1/4 of the energy density of the visible Universe is comprised of Dark Matter (DM), an unfamiliar and elusive form of matter that is yet to be understood. DM particles can be detected by experiments at the Large Hadron Collider (LHC), however, such searches are very challenging. We propose a novel approach based on Graph Neural Networks, combining low- and high-level information to enhance searches for DM at the LHC. We evaluate the algorithm and provide limits on the benchmark DM model.

Contribution length

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