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Jet grooming with reinforcement learning

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We introduce a novel implementation of a reinforcement learning algorithm which is adapted to the problem of jet grooming, a crucial component of jet physics at hadron colliders. We show that the grooming policies trained using a Deep Q-Network model outperform state-of-the-art tools used at the LHC such as Recursive Soft Drop, allowing for improved resolution of the mass of boosted objects. The algorithm learns how to optimally remove soft wide-angle radiation, allowing for a modular jet grooming tool that can be applied in a wide range of contexts.

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