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A generator cell for LHC event GANs

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We present a network for generative modeling of LHC events. We use Lorentz boosts, rotations, momentum and energy conservation to build a network cell generating a 2-body particle decay. We allow for modifications of the resulting four-vectors following a StyleGAN approach. We train the generator using the Lorentz Boost Network as a pre-stage of the critic's network. We present first evaluations of the generator quality using Drell-Yan processes.

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Session Classification: Generative Models