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QCD at a Forward Physics Facility at the High-Luminosity LHC

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The Forward Physics Facility (FPF) is a proposal to enlarge an existing cavern in the far-forward region of ATLAS to house a suite of experiments with groundbreaking new capabilities for many Standard Model studies and new physics searches. Although existing LHC detectors have great coverage of the central region, the production of particles in the far-forward direction is poorly constrained. In this regime, the measurement of the neutrino flux and spectrum will provide constraints on QCD that are complementary to those provided by other facilities. This will help validate and improve the underlying hadronic interaction models and multi-purpose event generators, help constrain the gluon PDF in the low x region.

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