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Forward Physics with the CMS-CASTOR calorimeter HANS VAN HAEVERMAET, University of Antwerp, CMS COLLABORATION — The CASTOR calorimeter, located at 14.4 from the CMS interaction point, enhances the hermeticity of the CMS detector by extending the rapidity coverage to $\eta < 6.6$. After having described the CASTOR calorimeter, examples of the capabilities and physics program of this detector will be presented. The study of forward jets production will give access to the low $x > 10^{-6}$ region where the gluon distribution increase is expected to saturate through the effects of nonlinear recombination terms in the DGLAP evolution equation. The study of events with a centrally produced dijet system and a forward jet will give access to parton dynamics beyond DGLAP and to the investigation of the BFKL or BFKL-like QCD evolution. The study of forward - central multiplicity correlations will enable to obtain a better understanding of the theoretically poorly constrained soft background that are the underlying events, defined as everything except the hard scattered components. The use of CASTOR as forward activity veto detectors is also of prime importance in the study of diffractive events, such as single diffractive W production, in order to obtain a more powerful rejection of the non-diffractive and inelastic diffractive backgrounds.

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