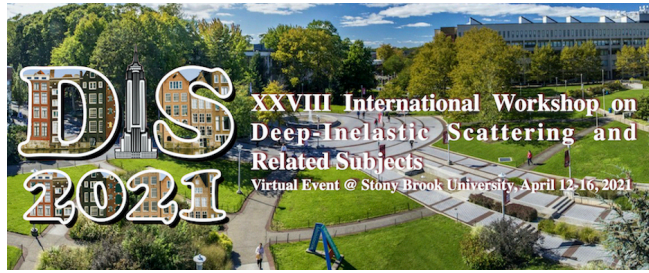


XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 408

Type: **Contributed Talk**

Differential measurement of the Z/photon cross section and collinear Z emission

Tuesday, 13 April 2021 12:18 (15 minutes)

Measurements of the differential cross sections of $Z + \text{jets}$ and $\gamma + \text{jets}$ production, and their ratio, are presented as a function of the boson transverse momentum. Measurements are also presented of the angular distribution between the Z boson direction and a jet in events where the Z boson is emitted collinear with a jet. The analysis is based on a data sample of proton-proton collisions at a center-of-mass energy of 13 TeV corresponding to an integrated luminosity of 35.9 fb^{-1} recorded by the CMS experiment at the LHC. The data are compared with various theoretical predictions after correcting for the detector effects. In general, the predictions at higher orders in perturbation theory show better agreement with the data. These results represent the first measurement of the differential cross section ratio of $Z + \text{jets}$ and $\gamma + \text{jets}$ production at 13 TeV and the first explicit measurement of collinear Z emission.

Presenter: ZECCHINELLI, Giacomo (Imperial College London)

Session Classification: Electroweak Physics and Beyond the Standard Model

Track Classification: Electroweak Physics and Beyond the Standard Model