

Abstract Submitted  
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**Measurement of the differential cross sections for the production of an isolated photon with associated jet in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.96$  TeV**  
ALEXANDER VERKHEEV, Joint Institute for Nuclear Research, D0 COLLABORATION — The process  $p\bar{p} \rightarrow \gamma + \text{jet} + X$  is studied using  $8.7 \text{ fb}^{-1}$  of data collected by the D0 detector at the Fermilab Tevatron collider at a center-of-mass energy  $\sqrt{s} = 1.96$  TeV. Photons are reconstructed with rapidities  $|y_\gamma| < 1.0$  and  $1.5 < |y_\gamma| < 2.5$  with transverse momenta in the range  $30 < p_{T\gamma} < 400$  GeV, while jets are reconstructed in four rapidity regions up to  $|y_{\text{jet}}| < 3.2$ . The differential cross section  $d^3\sigma/dP_{T\gamma}dy_\gamma dy_{\text{jet}}$  is measured as a function of  $p_{T\gamma}$  in 16 regions, differing by the relative orientations of the photon and the jet in rapidity. Results are compared with next-to-leading order calculations and to the PYTHIA and SHERPA Monte Carlo event generators.

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