Contribution ID: 1608 Type: Oral

## Prompt Photons with longitudinally polarized proton beams

Friday 1 November 2024 15:35 (15 minutes)

Complete one-loop QCD corrections to the process  $q\bar{q}g\gamma\to 0$  are presented, specifically focusing on longitudinal polarization of protons, using the SANC framework. The helicity amplitudes for three channels have been derived: quark-antiquark annihilation, gluon Compton scattering, photon Compton scattering.

Furthermore, a numerical estimation of polarized observables, including cross sections and both single and double asymmetries, has been obtained using the Monte Carlo generator ReneSANCe.

**Primary author:** КАМПФ, Алексей (Joint Institute for Nuclear Research)

Co-authors: SADYKOV, Renat (JINR); BONDARENKO, Serge (BLTP JINR); YERMOLCHYK, Vitaly (JINR; INP

BSU); ДЫДЫШКО, Erop (JINR); КАЛИНОВСКАЯ, Лидия (JINR)

**Presenter:** КАМПФ, Алексей (Joint Institute for Nuclear Research)

**Session Classification:** High Energy Physics

Track Classification: High Energy Physics