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pp scattering at the LHC with the lepton pair production and one proton tagging

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In this work forward proton scattering in association with lepton pairs produced via the photon fusion mechanism process was studied. The ATLAS collaboration
has managed to measure the cross sections of the process above. Here analytical formulas for the corresponding cross-sections were derived. These formulas allow for simple numerical integration instead of the usual Monte Carlo approach and thus can provide intuitive insights into the process targeted by the experiment.The numerical results are in the ballpark of experimental data, while their substantional deviation would signal New Physics.

Primary authors: KARKARYAN, Evgeny (LPI RAS); VYSOTSKY, mikhail (ITEP); GODUNOV, Sergey (Lebedev Physical Institute of the Russian Academy of Sciences (LPI RAS)); ZHEMCHUGOV, Evgeny (LPI RAS); Dr NOVIKOV, Viktor (LPI RAS); ROZANOV, Alexandre (CNRS/IN2P3)

Presenter: KARKARYAN, Evgeny (LPI RAS)

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