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Transverse momentum distribution of Drell-Yan pair in transversely polarized proton-proton collision KAZUHIRO TANAKA, Juntendo University, HIROYUKI KAWAMURA, The Institute of Physical and Chemical Research (RIKEN), JIRO KODAIRA, High Energy Accelerator Research Organization (KEK), HIROTAKA SHIMIZU, Hiroshima University — We discuss the QCD predictions for the transverse momentum (Q_T) distribution of Drell-Yan pair, produced in collisions of transversely polarized protons. We compute the 1-loop QCD corrections to transversely polarized Drell-Yan process at a measured Q_T and azimuthal angle of the produced lepton in the dimensional regularization scheme. We also include soft gluon effects at small Q_T by all-order resummation of logarithmically enhanced contributions up to next-to-leading logarithmic accuracy. We demonstrate that the soft gluon resummation leads to a well- defined, finite prediction of the cross section for all region of Q_T. We show the numerical results of the cross section using the transversity distributions $\delta q(x, Q^2)$ which satisfy the Soffer inequality. We also discuss role of nonperturbative corrections related to the intrinsic transverse momentum distributions of partons inside protons, and present the results for the transverse double-spin asymmetry A_{TT}.

Kazuhiro Tanaka
Juntendo University

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