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Unpolarized parton density functions in QED

Friday, July 21, 2023 9:30 AM (30 minutes)

Perturbative solutions for unpolarized QED parton distribution and fragmentation functions are presented explicitly in the next-to-leading logarithmic approximation. The scheme of iterative solution of QED evolution equations is described in detail. Terms up to $\mathcal{O}(\alpha^3 L^2)$ are calculated analytically, where $L = \ln(\mu/m_e^2)$ is the large logarithm which depends on the factorization energy
scale $\mu \gg m_e$. The results are process independent, they are relevant
for future high-precision experiments. Applications for electron-positron colliders, muon decay spectrum, and muon-electron scattering are discussed.

Is this abstract from experiment?

No

Name of experiment and experimental site

none

Is the speaker for that presentation defined?

Yes

Details

Andrej Arbuzov, Prof., Joint Institute for Nuclear Research, Russia, http://www.jinr.ru

Internet talk

No

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