ILCX2021 ILC Workshop on Potential Experiments

Contribution ID: **35**   Type: **Oral presentation using Zoom**

Subleading Logarithmic QED Initial State Corrections to $e^+e^- \to \gamma^*/Z^*$

Thursday, 28 October 2021 19:00 (24 minutes)

Using the method of massive operator matrix elements, we calculate the subleading logarithmic QED initial state radiation corrections to the process $e^+e^- \to \gamma^*/Z^*$ in the limit of large center of mass energies $s \gg m_e^2$ up to $O(\alpha^6)$. We furthermore generalize the calculation to the leading logarithmic corrections to the forward-backward asymmetry to the same order. Given the high precision at future colliders operating at very large luminosity, these corrections are important for concise theoretical predictions.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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Session Classification: K&I: Modeling & precision theory & Electroweak physics

Track Classification: Parallel sessions: Topical Groups: Session K: Modeling & precision theory