

# Outlook for Theoretical Precision of the Luminosity at Future Lepton Colliders

*Thursday 18 July 2024 20:40 (20 minutes)*

The LEP precision physics requirements on the theoretical precision tag for the respective luminosity were 0.054 % (0.061%) at  $M_Z$ , where the former (latter) LEP result has (does not have) the pairs correction. For the contemplated FCC-ee, ILC, and CEPC Higgs/EW factories, one needs improvement at  $M_Z$  to at least 0.01% for the theoretical precision tag. We discuss the paths one may take to even exceed this latter goal and present an update on the current expectations for both  $M_Z$  and proposed higher energy scenarios.

## Alternate track

1. Top Quark and Electroweak Physics

## I read the instructions above

Yes

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**Session Classification:** Poster Session 1

**Track Classification:** 11. Accelerator: Physics, Performance, and R&D for Future Facilities