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Electroweak physics at CEPC

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The Circular Electron Positron Collider (CEPC) project aims to build a circular electron-positron collider capable of precision physics measurements. The CEPC offers the possibility of dedicated low-energy runs at the Z pole and WW threshold with a high instantaneous luminosity. The expected integrated luminosity for the CEPC Z pole runs (WW threshold runs) is 100 ab⁻¹ (6 ab⁻¹), corresponding to 3×10^{12} Z bosons (1×10^8 W boson pairs). With large integrated luminosity, the CEPC will reach a new level of precision for measurements of the properties of the W and Z bosons. Precise measurements of the W and Z boson masses, widths, and couplings are critical to test the consistency of the Standard Model. An overview is presented of the potential of CEPC to advance precision studies of electroweak physics with an emphasis on the opportunities in W and Z physics.

In-person participation

No

Primary author: LIANG, Zhijun (IHEP Beijing)Presenter: LIU, Bo (IHEP, CAS)Session Classification: Top quark and EW Physics

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