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## Precision Electroweak measurements at FCC-ee

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As part of the Future Circular Collider study at CERN, the Future e+e- Circular Collider, FCC-ee, (formerly called TLEP) is a new generation collider, able to fit in a 80 to 100km tunnel, and able to deliver high luminosity in up to four interaction points from at least the Z peak to above the top pair threshold.

The luminosity at the Z pole and W pair threshold are over 2.5 and 1.2 10<sup>35</sup>/cm<sup>2</sup>/s in each of four Interaction points, respectively allowing to contemplate statistics of over 10<sup>12</sup> Z decays and 10<sup>8</sup> W pairs. Because of the large ring radius, transverse polarization for energy calibration should be available up to and including the W pair threshold, allowing to reach statistical (resp systematic) uncertainties of 10keV (resp 100 keV) on the Z mass and width, and 0.3 MeV (resp 0.5 MeV) on the W mass.

At 350 GeV centre-of-mass energy the FCC-ee can deliver a luminosity is 1.8 10<sup>34</sup>/cm<sup>2</sup>/s in up to four IPs with a nearly gaussian energy spread of <0.2%, allowing a detailed scan of the top threshold and production of over a million top quark pairs. A precise measurement of the top quark mass with an experimental error of the order of 10 MeV is feasible, as well as an investigation of rare decays and other top quark properties.

These and many other precision measurements available in the high statistics and clean environment will be discussed.

### Summary

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