Contribution ID: **486** Type: **Presentation**

Challenges for tau polarisation measurement

Tuesday, June 25, 2019 10:50 AM (20 minutes)

The unequal coupling of the Z boson to left-handed and right-handed electrons and taus produces the tau polarisation asymmetries, Ptau and ApolFB, that are related to the ratios of the effective vector to axial-vector couplings. In the context of the Standard Model, these couplings can in turn be interpreted as a measurement of the effective electroweak mixing angle. The parity violating effects of the neutral weak current as seen in the process e+e- to Z to tau+ tau- were probed with great precision at the four LEP experiments ALEPH, DELPHI, L3, and OPAL. This presentation will review these measurements and try to provide a perspective on the potential and challenges for improving their evaluation at the FCC-ee.

Primary author: VINCTER, Manuella (Carleton University (CA))

Presenter: VINCTER, Manuella (Carleton University (CA))

Session Classification: FCC physics, experiments & detectors

Track Classification: Physics