

First ECFA WORKSHOP.

Contribution ID: 48

Type: **Parallel session talk**

Enabling precision electroweak measurements at high energy e+e-colliders with detector-based center-of-mass energy measurements

Thursday 6 October 2022 16:00 (15 minutes)

One of the challenges for future e+e- colliders is adequate control of the center-of-mass energy, and the associated luminosity spectrum. For linear colliders at all energies and for circular colliders at center-of-mass energies above 200 GeV one can not rely on resonant beam depolarization and must use collision data driven methods. The contribution will focus on progress related to this issue based on reconstruction of di-muon events that leverages a precise tracker momentum scale calibration, and will discuss a few of the electroweak measurements such as the W and Z masses and widths and the left-right asymmetry that are made feasible particularly at a linear collider. The talk will also address associated detector performance requirements.

Primary author: WILSON, Graham (University of Kansas)

Presenter: WILSON, Graham (University of Kansas)

Session Classification: WG 1 - Precision

Track Classification: WG1-PREC - Physics Potential: Precision