



Contribution ID: 126

Type: Oral presentation using Zoom

Center-of-mass energy determination using dimuon events at ILC

Wednesday, 27 October 2021 20:36 (24 minutes)

Precision measurements of masses from both center-of-mass energy scans and using beam energy and momentum constraints rely on knowledge of the absolute center-of-mass energy scale and the luminosity spectrum, $dL/d\sqrt{s}$. A key method is the \sqrt{s}_p technique that uses the tracker muon momenta measurements in $e^+e^- \rightarrow \mu^+\mu^-(\gamma)$ events to determine both \sqrt{s} and the related luminosity spectrum. The talk will describe recent studies aimed at evaluating this method using fully reconstructed ILC events at $\sqrt{s} = 250$ GeV including detector effects, crossing-angle, beam-energy-spread, beamstrahlung, overlay, ISR, FSR, backgrounds, and investigations of vertex fitting. The same event sample is also used to evaluate sensitivity to the Z mass and width.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

13:00-15:00 JST (6:00-8:00 CEST, 0:00-2:00 EDT, 21:00-23:00 PDT)

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Session Classification: I: Electroweak physics

Track Classification: Parallel sessions: Topical Groups: Session I: Electroweak physics