



Contribution ID: 43

Type: Oral presentation using Zoom

Forward Backward Asymmetry studies with heavy quarks (b/c) at ILC250

Wednesday, 27 October 2021 15:54 (20 minutes)

The process $ee \rightarrow qq$ (with q from u to top) plays a central role in the physics programs of high energy electron-positron colliders operating from the $O(100\text{GeV})$ to $O(1\text{TeV})$ center of mass energies. Furthermore, polarised beams as available at the International Linear Collider (ILC) are an essential input for the complete measurement of the helicity amplitudes that govern the production cross section. Quarks, specially the heaviers, are likely messengers to new physics and at the same time they are ideal benchmark processes for detector optimisation. We will present detailed studies for the bottom and charm quarks production at 250GeV using ILD full simulation.

These measurements require superb primary and secondary vertex reconstruction, a high tracking efficiency to correctly measure the vertex charge and excellent hadron identification capabilities. We will show how that we can reach 0.1% - 0.5% level of experimental precision, including a comprehensive study of the systematic uncertainties. We will also outline the capabilities of indirect discovery of new physics as Randall-Sundrum models with warped extra dimensions.

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

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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Session Classification: G: Top / Heavy flavour / QCD

Track Classification: Parallel sessions: Topical Groups: Session G: Top / Heavy flavour / QCD