

Contribution ID: 5

Type: **Parallel Session Presentation**

The Central Role of Beam Polarization at Future e+e- Linear Colliders

Monday, 18 October 2021 18:50 (25 minutes)

In e+e- collisions at energies above the Z resonances, left- and right-handed polarized electrons and positrons are essentially different species whose cross sections differ by order-1 factors.

This implies that beam polarization can be used as a tool to uncover many aspects of the physics that these colliders will study. This talk will present a wide variety of examples illustrating this point, from the determination of the structure of the Higgs boson couplings, to the search for new s-channel resonances, to the enhancement of the collider luminosity for Vector Boson Fusion reactions. It will also discuss the use of separately adjustable electron and positron polarization to control backgrounds and understand the magnitude of systematic uncertainties.

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Session Classification: Future facilities and experiments

Track Classification: Parallel Sessions: Future facilities and experiments