Contribution ID: **93** Type: **Oral contribution**

Physics Prospects of Beam Polarization at Belle II

Friday 1 October 2021 15:35 (25 minutes)

Having the SuperKEKB e+e- collider upgraded with a polarized e- beam is under consideration, providing a unique program of precision electroweak and other physics at 10.6 GeV, thereby opening exciting new windows in search of new physics. Measurements of left-right asymmetries (A_{LR}) of e+e- transitions to pairs of taus, muons, electrons, c- and b-quarks would yield improvements to the determination of $\sin^2\theta_W$ compared to those made at the Z-pole precision but at much lower energy. These will probe the running and universality of neutral current couplings with unprecedented precision, opening new ways to search for dark sector effects. Other tau and QCD physics is also enhanced. This paper will focus on the physics prospects with a special emphasis on tau physics.

What is your topic?

Future opportunities in Tau Physics

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Session Classification: Session 7: Future directions

Track Classification: Tau2021 Abstracts