



PPD Seminar

Experience with Vertex Detector Background at SLD, and Implications for FCC-ee (Z pole running)

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There are close similarities between SLD (1992-1998) and FCC-ee(TeraZ) which will possibly be operating from 2045. While the collider technology will switch from linear to circular, both machines operate at the Z pole and produce a similar luminosity per bunch crossing, but with a factor $\sim 10^6$ higher luminosity due mainly to the increased bunch crossing frequency (120 Hz to 50 MHz). What was overlooked in the FCC Feasibility Study was the consequential increase in background, of which there are at least two types, which could disable all 4 vertex detectors. In this talk, we review the lessons from SLD, and present ideas for handling these backgrounds at FCC-ee.

