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Simulation of Beam-induced Backgrounds for the Cool Copper Collider

Electron-positron pair production and hadron photoproduction are the most critical beam-induced backgrounds at linear electron-positron colliders. Predicting them accurately governs the design and optimization of detectors at these machines and, ultimately, their physics reach. With the proposal, adoption, and first specification of the C^3 collider concept, it is of primary importance to estimate these backgrounds and begin the process of tuning existing linear collider detector designs to fully exploit the parameters of the machine. A report on the status of estimating both of these backgrounds at C^3 using the SiD detector concept is presented with a discussion on the effects of machine parameters on preliminary detector and electronics design.

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