

Beam abort system for the FCC-ee

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The conceptual design of an abort system for the future electron positron circular collider is presented. A dedicated abort system has been studied based on MAD-X simulations. The proposed abort system consists of abort kickers, septum magnets and a dilution kicker system. The abort system must safely remove the beam from the accelerator ring and transport it to a dedicated beam dump. The dilution kickers must spread the beam evenly on the surface of the beam dump and on the vacuum chamber window, in order to prevent damages due to high energy electron and positron beams. Simulation studies are carried out in order to determine an operational configuration of the abort system and the required apertures of the abort beam lines.

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