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## Design Studies and HiRadMat test for the FCC-ee Beam Dump System

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The FCC-ee operation modes foresee stored beam energies of up to 20 MJ (for Z operation). In this talk an optimized beam dumping system is presented. This system utilizes passive beam diluters (Spoilers) and therefore eliminates any active dilution failure scenarios, while also being capable of shortening the dump line to about 350 m from extraction.

Materials for this Spoilers have been studied extensively and key material properties have been identified using both FLUKA and LS-Dyna simulations. In a HiRadMat experiment, scheduled for October 2021, these findings will be tested using scaled prototypes of the proposed Spoilers with special beam optics and pre-targets to reach similar mechanical stresses as seen in the simulations.

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