

First ECLOUD Modeling

with Complete Magnetic Field Dependence

of Vacuum Chamber Transmission

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Cornell Laboratory for Accelerator-Based Sciences and Education

CESRTA Collaboration Meeting

9 October 2013







Cornell University Laboratory for Elementary-Particle Physics

Shielded Pickup Detector in Quadrupole Q48W





9 October 2013

Time-Resolved Measurements and Modeling of Electron Trapping in a Quadrupole Magnet / J.A. Crittenden



ECLOUD model for 10- and 20 bunch trains of positrons at 8 mA/bunch

1152 Signal macroparticles collected over 3.1 microseconds Cyclotron period for 3500 G is 100 ps



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WHH acceptance functions and ECLOUD implementation and population



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Modeled signal before (35712) and after (35825)



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