

Cornell University Laboratory for Elementary-Particle Physics

How does the signal from trapped electrons depend on bunch population ?

QSPU in Q48W: 5.3 GeV e+ 20 bunches

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The measurements also show that a larger fraction of the cloud charge which contributes to the measured signal is trapped for lower bunch current.

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Electron Trapping in Q48W: 2014 REU Study Revelations/ J.A. Crittenden

• Signal Macroparticle Age: time since the last wall encounter of a particle that enters the detector



Job 38268



Trapped signal electrons produced near the end of a preceding train

Since six bunches suffice to clear the trapped cloud which can produce signal, such electrons can only be produced during the trailing six bunches of a train

Trapped signal electrons produced between trains

Job 38309.



Trapping for signal electrons occurs more effectively at lower bunch current