



Cornell University
Laboratory for Elementary-Particle Physics



ECLOUD Calculations of Coherent Tune Shifts for the April 2007 and January 2009 Measurements

- Preparation for PAC2009 FR5RF Paper and Poster -

“Effects of Electron Cloud Formation on Beam Dynamics at CsrTA”

Jim Crittenden

Cornell Laboratory for Accelerator-Based Sciences and Education

Electron Cloud Simulations Meeting

Wilson Lab

22 April 2009



Includes post-meeting improvements

Plot added to slide 4

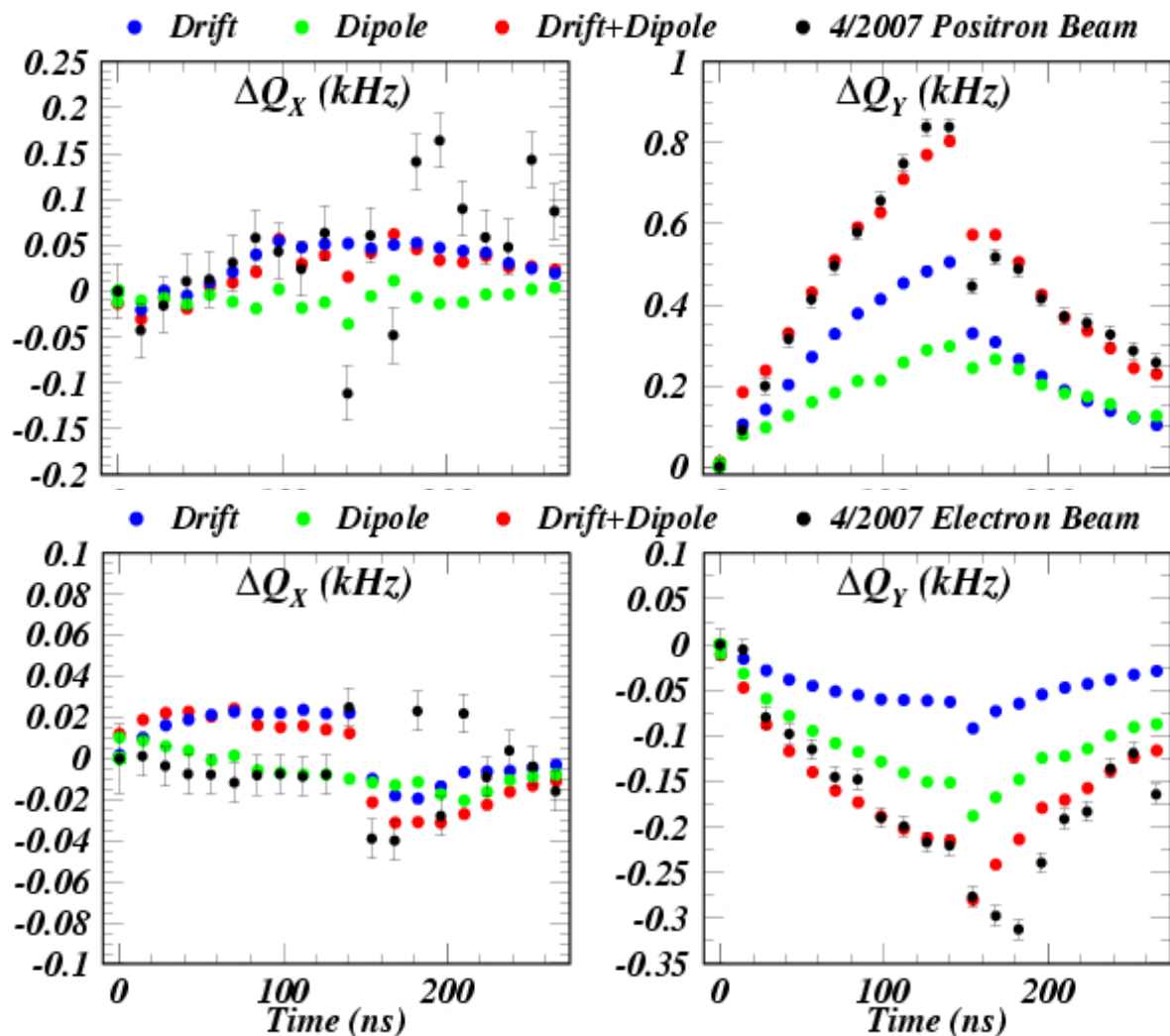




ECLLOUD Tune Shift Calculations

-- April 2007 Measurements --

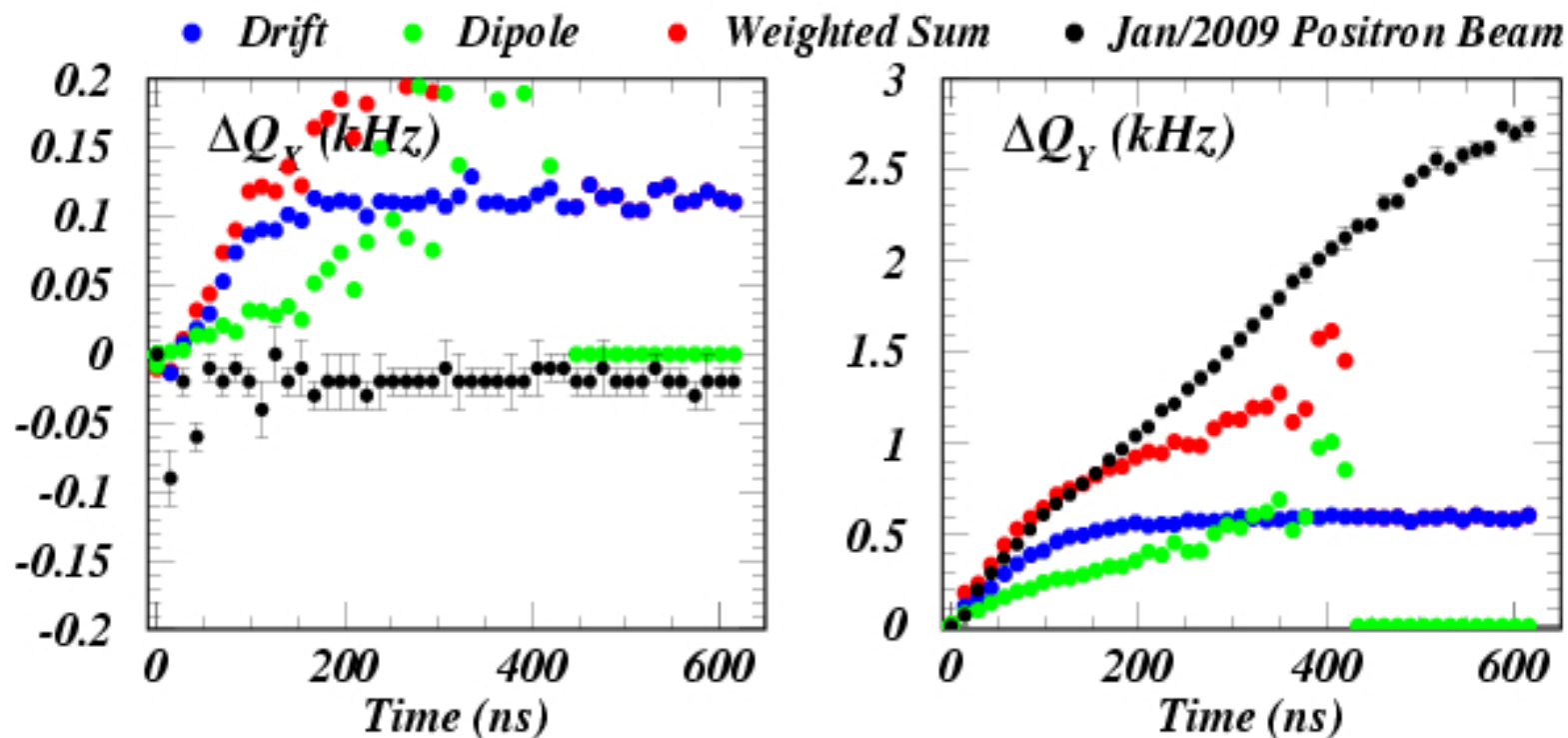
Systematic improvement since the March 25 results: Effects of charge in witness bunches now included.





ECLLOUD Tune Shift Calculations

-- January 2009 Measurements --

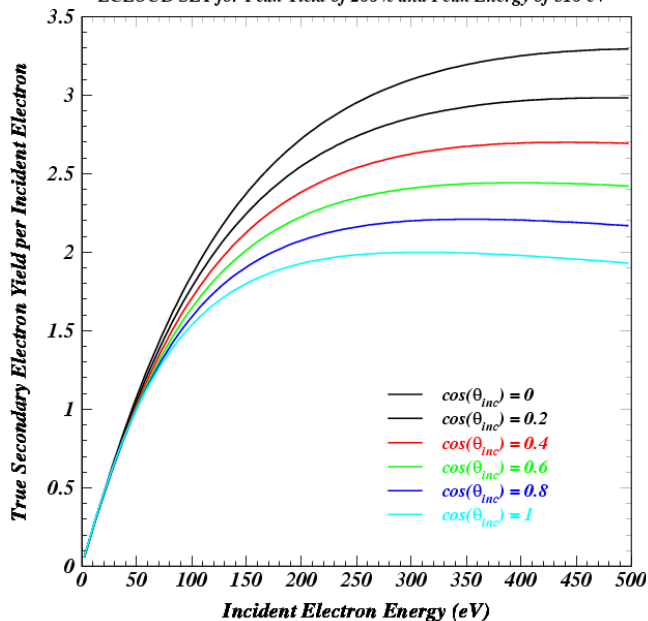


ECLLOUD instability problems unlikely to be resolved in time for PAC2009.

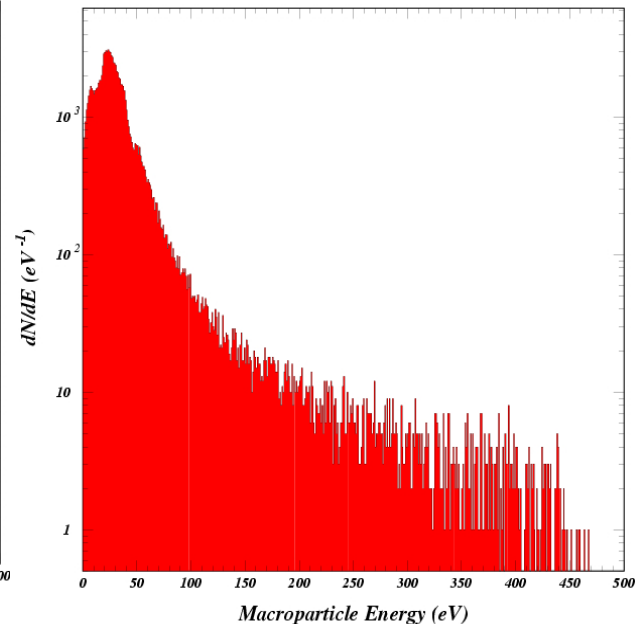
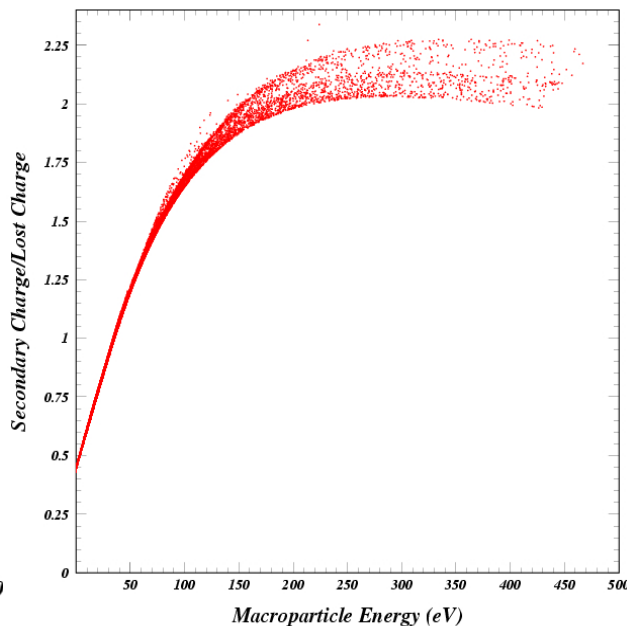


*Yield curve for true secondaries
for peak yield 2.0 and peak energy 310 eV*

ECLLOUD SEY for Peak Yield of 200% and Peak Energy of 310 eV



*Simulated SEY yield population including elastics
for the case of a drift volume for the April 2007 data*



Consider a plot for FR5RF44 showing SEY population.

Descriptive text for introduction, tune shift measurement procedure, POSINST results and future plans will saturate the three pages.

Additional space available on the poster.