



Cornell University
Laboratory for Elementary-Particle Physics



ECLLOUD Simulations for the Tune Shift Measurements of 19-20 December 2009

*10-, 20-, 45-bunch trains with 34 mA total current
4-, 8-, 12-ns bunch spacing*

*Includes comparison to June 2009 measurements with 4-ns spacing
for which POSINST calculations are available*

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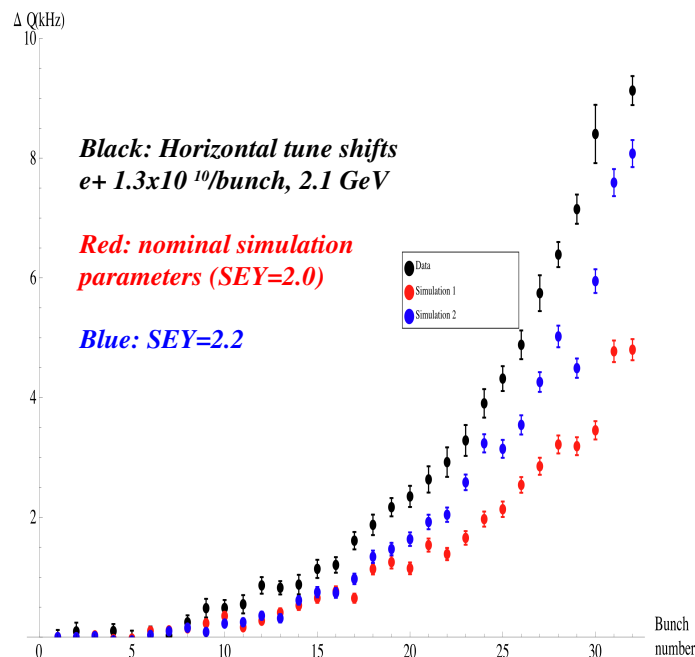
Electron Cloud Meeting

6 January 2010

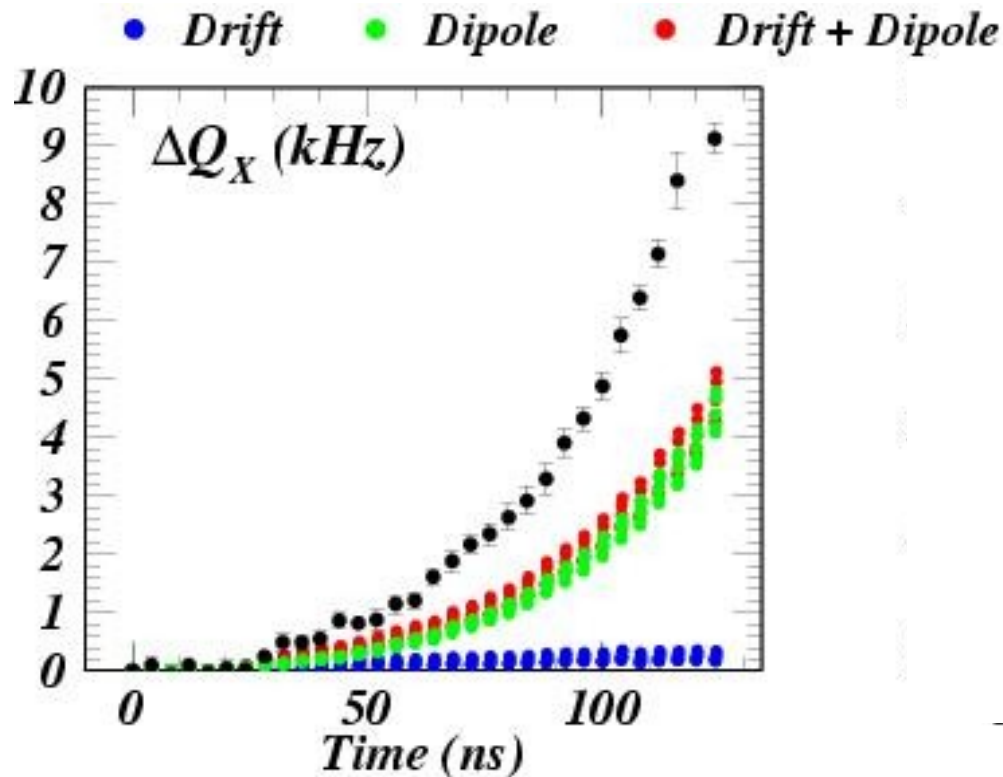




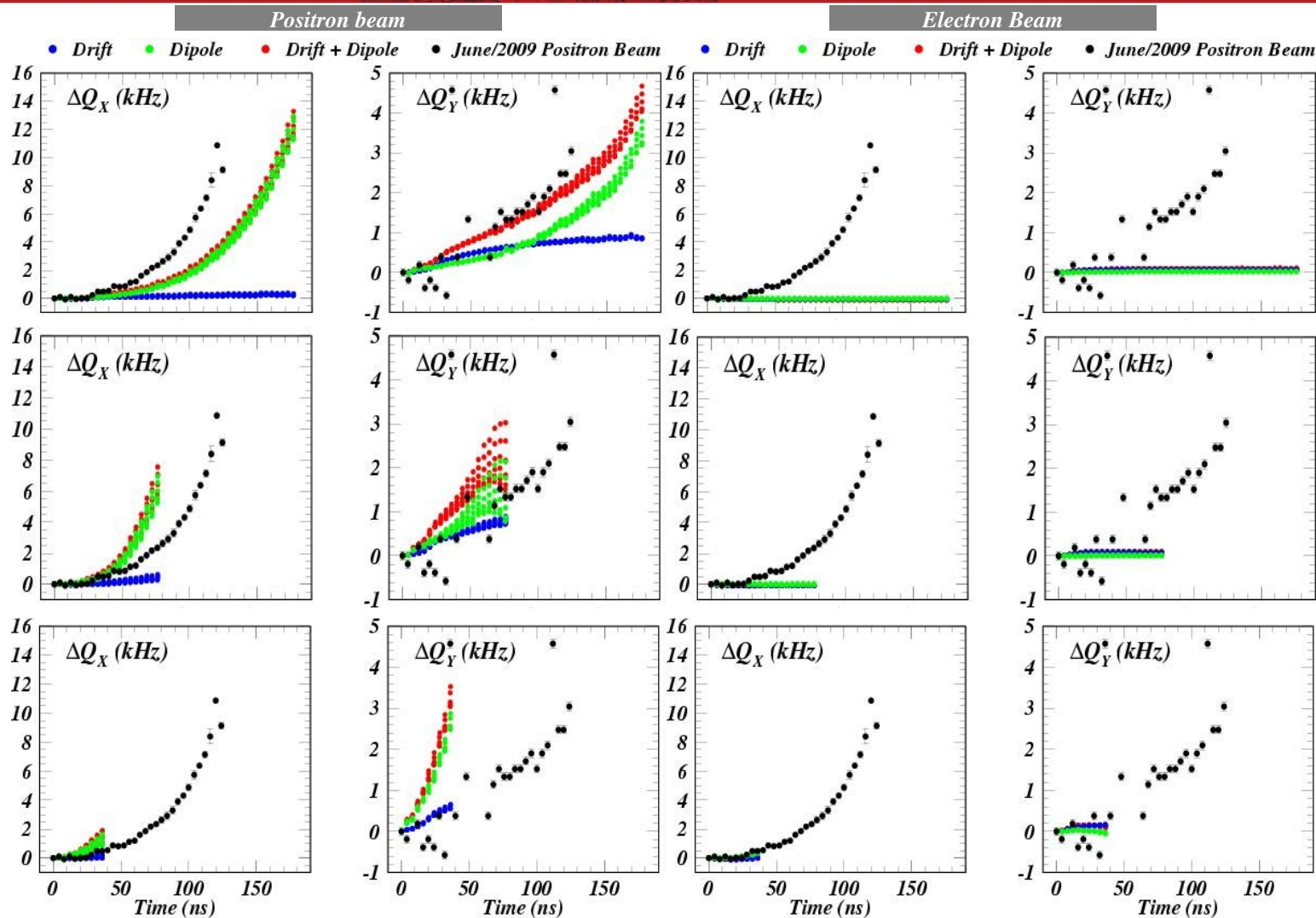
*POSINST (Gerry)
Electron cloud meeting 6/17/2009*



ECLLOUD



*The POSINST and ECLLOUD field gradient calculations are consistent with each other.
Each underestimates the horizontal tune shift.*

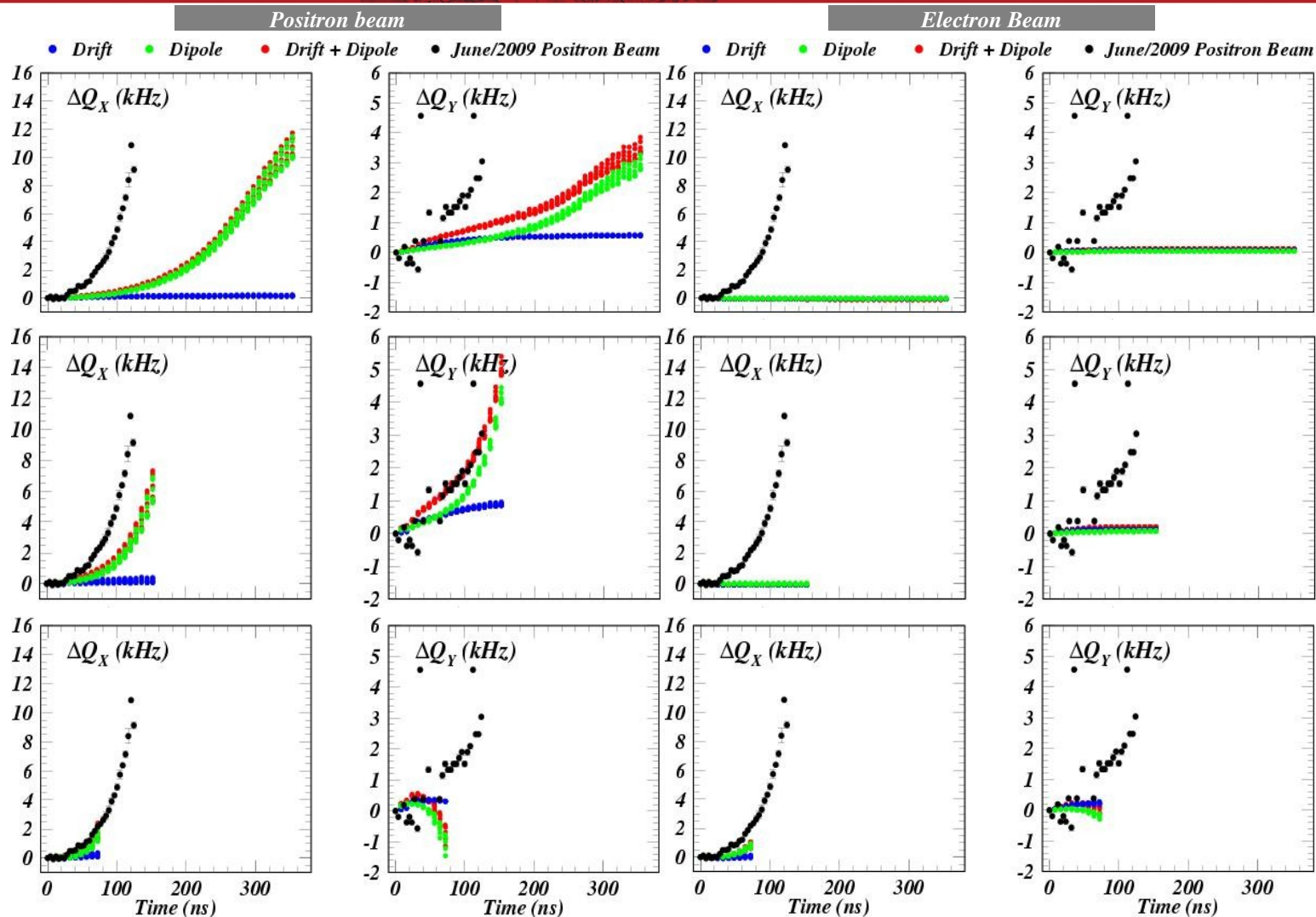


45 bunch train
0.75 mA/bunch

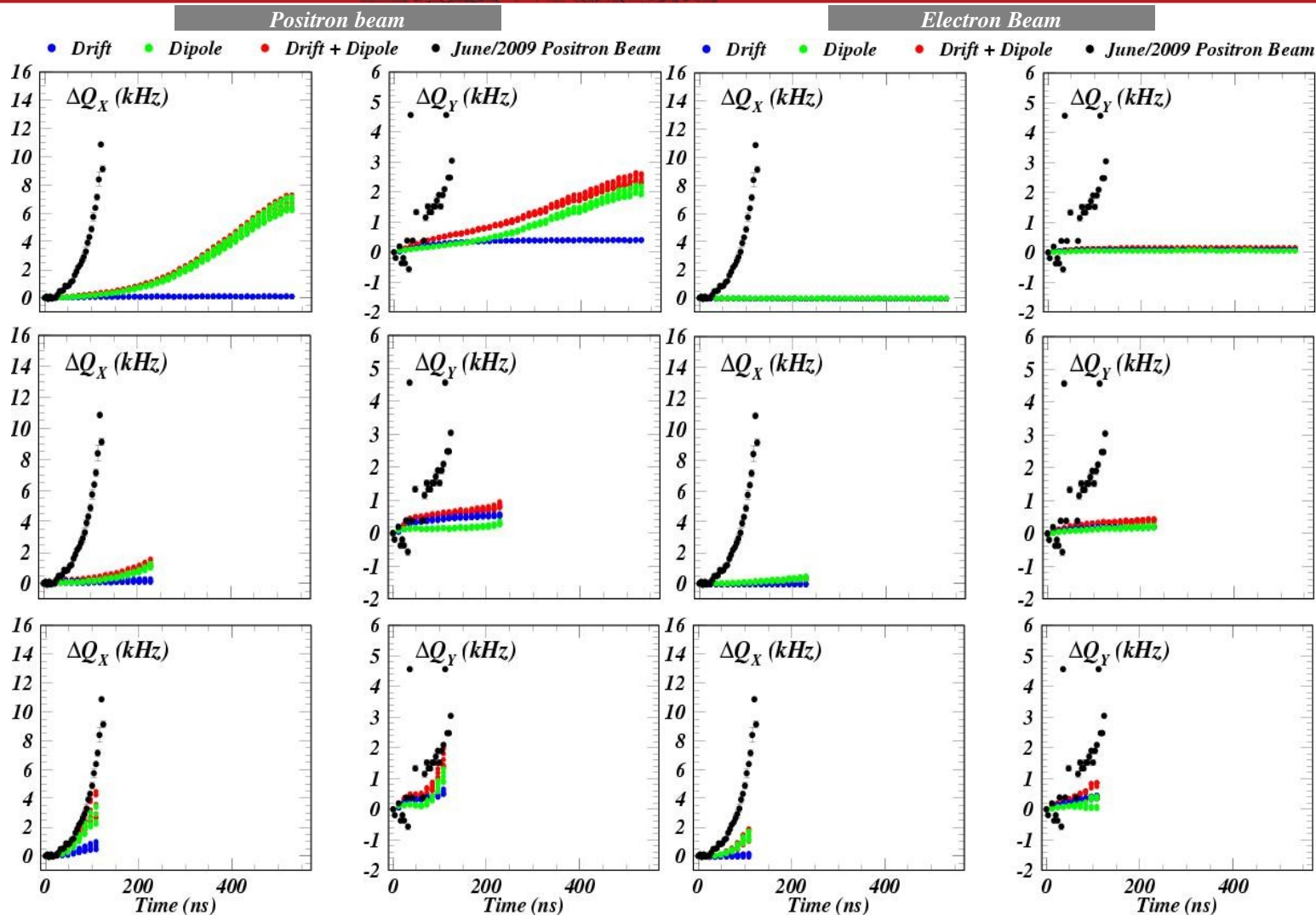
20 bunch train
1.7 mA/bunch

10 bunch train
3.4 mA/bunch

Remarkable variety in positron tune shifts. Electron tune shifts negligible.



Remarkable variety in positron tune shifts also for 8-ns spacing, including sign change.



The results for 12-ns spacing give information on how the 14-ns data is likely to behave.