

## Notes From LE eCooling Timing meeting

Date: Oct. 31, 2013

### Attending:

K. Brown, A. Fedotov, B. Sheehy, C. Theisen, J. Jamilkowski, J. Morris, K. Smith, D. Gassner, M. Minty, D. Kayran, I. Pinayev, I. Ben-Zvi, B. Lambiase

### Agenda:

1. A. Fedotov presentation, overview of eCooling and Timing requirements
2. B. Sheehy presentation, laser timing
3. Discussion

### Notes:

Fedotov presentation.

Kevin S. – For SC each ring needs different cooling rates. eCool consideration?  
Cooling rates for both Blue/Yellow will be same (same electron beam).

Discussion of bunch 7% specification

Bunch to bunch variations cannot exceed 7% (rms) in electron bunch amplitude, but variations within a single bunch are not an issue.

Some discussion of recombination monitor.

100 ps lock will be set by the synchronization of the RF with the laser system.

For RF, works on a revolution harmonic, not a bunch harmonic. So electron bunches will shift in phase over RHIC bunches in a single turn (electron bunches will not land in the same phase for each ion bunch). However, from turn to turn they must remained locked to within 100 psec (rms).

Sheehy presentation.

Reviewed timing as needed by the laser system.

Discussion of laser macropulse pattern. LLRF can provide what is needed (K. Smith).  
Need the gated pulses in order to keep beam power dumped minimized.

LLRF will provide the rev tick, rf clock, and gate timing for Laser.

Discussion of laser diagnostics timing requirements. Looks straight forward, but details need to be worked out offline.