CesrTA Machine Studies Task Overview

I. Experiment Description

Experimental Topic	RFA Characterization Measurements at 5.3 GeV	
Classification*	EC	
Coordinator/ Experimenters	J. Calvey	W. Hartung, J. Makita
Primary Goals	Characterization of vacuum chambers with EC mitigations at 5.3 GeV, including chambers in 15E and 15W installed Summer 2012.	
Description†	Route: CTA_5289_0W_14NS Energy: 5.3 GeV Nominal tunes (multi-bunch): fh = 223-227 kHz; fv = 234.5-239.5 kHz Species: Positrons and electrons Chicane ON (19200 CU) Bunch configurations : 1×45, 14 ns: stop for voltage scans at total currents of 34 mA, 56 mA and maximum 1×20, 14 ns: stop for voltage scans at total currents of 56 mA, 100 mA, 150 mA, and maximum current (target 200 mA, if possible) 9×1, 280 ns: stop for voltage scans at total currents of 34 mA and maximum current If extra time is available: 1×20, 4ns: stop at 56 mA and maximum current 1×45, 4ns: stop at 34 mA and maximum current 1×45, 42ns: stop at 23 mA	
Special Needs/Requests	Needs preparation of injection conditions and pre-check of location in tune plane for long train operation. L3 TR-RFAs should be connected for standard RFA readout.	
Prerequisites‡	**Personnel**	**Description**
Injection Conditions	M. Forster, S. Peck, J. Sikora	Ensure good electron and positron injection conditions for long trains.
Establish Working Point	MAP/MGB	Establish working point for long trains due to large tune spreads.
Time Requested§	**No. Shifts**	**Principal Tasks**
8 hours	1	Measurements described in description section above.

* Machine Studies Classifications:
- EC - Electron Cloud
- LET - Optics Correction and Low Emittance Tuning
- xBSM - x-ray Beam Size Monitor
- INST - Instrumentation (BPM development, RFA development, other)
- MDEV - Machine Development (includes injection configuration, injection tuning, custom orbit setup, instrumentation preparation, etc.)
- MREC - Machine Startup (recovering conditions after down time)

† Attach additional pages for experimental description if needed

‡ Indicate other machine work that is required in preparation for this machine studies experiment.

§ Indicate the principal shift topics and estimated number of shifts required

II. Machine Studies Assignments

Reserved for Project Management Team Use		
Topic ID		
Priority[**]		
Shift Assignments	**Date**	**Shift**

[**] Priority Scale:

1. Critical – results are necessary for preparation for subsequent down/run periods
2. Very high – results are strongly desired for achieving program milestones or in preparation for subsequent down/run periods
3. High – results are of immediate interest but not require
4. Moderate – results should be pursued at the first convenient opportunity
5. Low – results are not presently a high priority for either project milestones or planning