CesrTA Machine Studies Task Overview

I. Experiment Description

Experimental Topic	Bunch spacing studies at 2.1 GeV	
Classification[*]	EC	
Coordinator/ Experimenters	J. Calvey, M. Palmer	W. Hartung, J. Makita, S. Santos, R. Schwartz, S. Roy
Primary Goals	Take data with 20 bunch trains, as a function of bunch spacing, at 2.1GeV	
Description[†]	Route: CTA_2085_12W_DMTL_BIGD Energy: 2.1 GeV Species: Electron and positron Chicane on (19200 c.u.), DIPS off Fill 20 bunch trains to as high as we can go before running into trouble (~2mA/bunch), with both electron and positron beams. Do a voltage scan at this peak current. Possibly fill higher and do another voltage scan for larger spacings. Spacings: 4, 16, 28, 40, 52, 64, 76, 88, 100 ns If there is extra time: 8, 20, 32, 44, 56, 68, 80, 92, 104, 116ns	
Special Needs/Requests	Needs preparation of injection conditions and pre-check of location in tune plane for 20 bunch operation	
Prerequisites[‡]	**Personnel**	**Description**
Injection Conditions	M. Forster, S. Peck, J. Sikora	Ensure good electron and positron injection conditions for 20 bunch trains, 4ns
Establish Working Point	MAP/MGB	Establish working point for 20 bunch trains, 4ns.
Time Requested[§]	**No. Shifts**	**Principal Tasks**
8 hrs	1	Described above

[*] Machine Studies Classifications:

- EC – Electron Cloud
- LET – Optics Correction and Low Emittance Tuning
- IBS – Intra-beam scattering studies
- 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 period or access)

[†] 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