CesrTA Machine Studies Task Overview

I. Experiment Description

Experimental Topic	Use PMT setup to measure horizontal and vertical beam sizes	
Classification[*]	INST	
Coordinator/ Experimenters	RLH	SW, RLH
Primary Goals	Setup PMTs to measure horizontal and vertical beam sizes for IBS study	
Description[†]	1. Test the schemes to magnify the image of source 2. Align the PMTs and check the timing 3. Check the Matlab software: control and fitting routines 4. Check its connection to MPMnet 5. Measure the horizontal beam size turn-by-turn with PMT and compare with vBSM 6. Measure the vertical beam size using pi-polarization method with PMT and compare with xBSM Note, it can be parasitically with xBSM and stable single bunch operation.	
SpecialNeeds/Requests		
Prerequisites[‡]	**Personnel**	**Description**
Matlab software development	SW	Development of the new Matlab program to fit the pi-polarized pattern
Time Requested[§]	**No. Shifts**	**Principal Tasks**
8hr	3	

[*] 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