

CesrTA Machine Studies Task Overview

I. Experiment Description

Experimental Topic	TE Wave Cyclotron Resonance	
Classification *	EC	
Coordinator/ Experimenters	J. Sikora	J. Sikora, S. De Santis
Primary Goals	Improve understanding of TE wave and EC interaction in the presence of magnetic fields.	
Description †	<p>Measurements using new BPM's in L3, bracketing chicane dipole. Frequencies below/around the beampipe cutoff.</p> <p>Resonance already well studied at frequencies above cutoff. Detecting the resonance at lower frequencies may make a direct measurement of the plasma frequency possible.</p> <p>Experiment can run in parallel with other measurements already planned for the TE wave shift(s) already on schedule. Apr 11-12 ?</p>	
Special Needs/Requests	May need access to L3 for measuring transmission function between BPM's Multibunch beam, for maximizing TE wave signal.	
Prerequisites ‡	Personnel	Description
Time Requested §	No. Shifts	Principal Tasks
4 hrs.	1	Measurements using new BPM in L3

* 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