

LEReC 04/21/2016
Instrumentation Meeting
By Toby Miller

Minutes

***** Today's MEETING NOTES*****

- **Cathode current monitor**
 - Mike C. & Don B. are working on this with direction from Bruce Dunham & Don Gibbs.
 - Will not be fast enough to protect YAG PM
 - May NOT have sensitivity any better than 100uA... Under investigation
 - YAG PM shall be protected by laser pulse length limiter
 - Really need to buy FCT and install in Gun-to-Booster area!
- **Energy Spread Measurement in Cooling Section**
 - P. Thieberger is working on determining required drift length to additional BPM for angle meas.
 - Jorg will then rerun optics and work on dynamics simulation to determine width of tungsten slit
- **Additional BPM & corrector at the end of the Transport**
 - not needed; deleted
- **Gun Test BPMs (4) swap with merger (2) & extraction (2) BPMs for 200C bakeout**
 - Discussed and agreed upon.
- **Profile Monitor screen sizes**
 - 1st PM screen (15x25mm) after booster needs a larger size to accommodate 400keV beams
 - This ERL HEPM is being redesigned with the CeC YAG holder (25mm round)
- **Diag. B/L beam dump(s)**
 - Design of beam dumps or faraday cup type flanges needs to be addressed... Not covered in this meeting...
- **Emittance measurement component placement**
 - Update from Chuyu on optimization of lattice to support measurement showed a good measured emittance for 400keV but poor for 1.6MeV due to nongaussian beam parameters
 - Tungsten mask (1mm thick): 0.15 mm slit width, 1.35 mm spacing (~15 slits), 2 m drift space to PM
 - 400keV measurement not possible without solenoid where booster will be. Jorg will rerun simulations to move this solenoid to coexist with the booster.
 - A final decision will be taken next week after review of Jorg's new simulation data
- **Ion Clearing Electrodes**
 - Power Supplies need to be defined... Not covered in this meeting...
- **ICT & DCCT Shield**
 - DCCT drawings are ready
 - ICT shield design being simulated by Peter T.