



MAP Friday Meeting: *Systems Demonstrations*

Dan Kaplan

IIT

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Outline

- Summary of SD Activities
- L2 Summary reports
- Topical Report
 - *Status of MICE Software,*
Durga Rajaram, IIT

Systems Demonstrations: Current Activities



- **MICE:**
 - Spectrometer Solenoid reassembly, training, & mapping
 - Software development (on- and off-line)
 - Controls & Monitoring development
 - Data analysis and paper preparation
 - CM36 organization
- **6DICE:**
 - Simulate emittance exchange study in MICE
 - Define requirements for 6D cooling bench test
 - Evaluate NuSTORM as muon source for 6D cooling demonstration
 - Identify venues for collective-effects studies

Recent News



- **MICE:**
 - Spectrometer Solenoids:
 - SS2: awaiting shipment of CERN field-mapping equipment from RAL to Wang
 - SS1: reassembly work progressing well; cooldown anticipated in May
 - FC1:
 - Solenoid-mode training successfully completed at RAL
 - Slow training in Flip mode under investigation by vendor
 - 1st CC cold mass ready for testing – awaiting operational clearance
 - Step I papers in prep: Emittance Measurement, Pion Contamination
 - CM36:
 - To take place June 17-18 at IIT & June 19 at FNAL
 - Website up (<http://mice.iit.edu/cm/cm36/>)
 - Registration page to go up soon
 - EMR run planned July–August
- **6DICE:**
 - Regular phone conferences started
 - Next one Wed., Apr. 24

Monthly L2 Status Report -

WBS: 04.01 – MICE

19 April 2013
 Presenter: L. Coney



<p><u>Milestone Status (Progress)</u></p> <ul style="list-style-type: none"> • First MICE-US resource-loaded schedule which has been matched with the planned activities by the MICE-UK effort • Operational support plan for Step IV – in progress • Incorporate magnetic field mitigation into schedule – in progress • EMR commissioning (DAQ/C&M/Online Reco) 	<p><u>Resource Conflicts, Plan Changes and Issues</u></p> <ul style="list-style-type: none"> • FC1 training • Delay in shipping of field measurement kit to Wang • Online Reco software person leaving MICE
<p><u>Summary of Previous Month</u></p> <ul style="list-style-type: none"> • SS2 training done – reached acceptance goals • Activation Run – no induced activation → run at 8V loss next • FC1 flip mode – goal 225A, reached 162A, paused to assess • Online improvements - new Online Reco & C&M ioc computers installed, new computer monitoring • C&M progress on SS state machine and Run Control • DS cooldown started • Emittance paper to collaboration for pre-publish review • Hall – major AC refrigerant leak fixed, PPS upgraded 	<p><u>Late Items</u></p> <ul style="list-style-type: none"> • EMR run delayed to July/Aug (originally May/June) • SS2 field measurement needs to start ASAP • Operational support plan in progress
<p><u>Upcoming Work (Next Month)</u></p> <ul style="list-style-type: none"> • Magnetic field measurements of SS2 at Wang • Review (STFC/DOE) at RAL early May • Complete operational support plan for Step IV running • Debug FC1 training • Submit Step I emittance paper for publication • PID paper to collaboration for pre-publication review • Tracker readout mockup • Test new quench detection system for Decay Solenoid • Plan for July EMR data run 	<p><u>Quarterly Plans</u></p> <ul style="list-style-type: none"> • Complete SS1 field measurement • Complete full engineering plan for local shielding of cooling channel magnetic field in MICE Hall (H. Witte) • Decision on FC1 testing • Hall – implement start of magnetic field mitigation plan • Hall – install FC1 • Hall – installation of TIARA RF – water system • Fix Decay Solenoid compressor (oil leak) – remove/reinstall • FC controls review • Finish PID analysis paper – submit for publication • EMR installation & commissioning • CM36 at IIT – June 17-19

Monthly L2 Status Report -

WBS: 04.02 – 6D Cooling Demonstration

19 April 2013
Presenter: Pavel Snopok



<p><u>Milestone Status (Progress)</u></p> <ul style="list-style-type: none">• First cut at milestones:<ul style="list-style-type: none">– Develop a strategy for channel down-selection (parameters, comparison criteria, etc.)– Draft a list of technical requirements for both HCC and Guggenheim bench test demonstration– Find a viable candidate for intense beam–matter demonstration– Identify minimum requirement for 6D cooling demo w beam	<p><u>Resource Conflicts, Plan Changes and Issues</u></p> <ul style="list-style-type: none">• Guggenheim simulations progress well, however, the number of different channels being simulated is multiplying: the "canonical" Guggenheim helix + two variants of Balbekov's snake on the table at the moment. <p><u>Late Items</u></p> <ul style="list-style-type: none">• Milestones: first cut presented.• 6D emittance reduction @ NuSTORM
<p><u>Summary of Previous Month</u></p> <ul style="list-style-type: none">• First phone meeting on 6DICE organized:<ul style="list-style-type: none">– Need a list of parameters to compare channels.– Ideally close to the final 6D cooling stage, but given time and funding constraints, could be something more manageable.– Muons Inc: working on Nb3Sn coil, potential synergy with 805 MHz RF test for Guggenheim in the field of this coil.– Gas-filled cavities for Guggenheim: further studies required.	<p><u>Quarterly Plans</u></p> <ul style="list-style-type: none">• Intensity test source options/parameters: Chuck suggested NuSTORM can potentially be used as a source + Chris Rogers presentation next week.• Synergies with NuSTORM.• List of parameters for cooling channel comparison.
<p><u>Upcoming Work (Next Month)</u></p> <ul style="list-style-type: none">• Next 6DICE meeting:<ul style="list-style-type: none">– Rol Johnson: MANX.– Diktys Stratakis: Guggenheim simulations.– Chris Rogers: proton intensity test.	