

# GDE/RTML parallel sessions agenda

Tuesday, Oct.23 - Wednesday Oct.24,  
2007

ALCPG 2007, FNAL

	<b>Tuesday, Oct.23, 2007</b>	<b>Wednesday, Oct.24, 2007</b>
08:30 - 09:00	<b>Joint w Simulation (K.Kubo) – WH1E</b>	<b>Dumps, Collimator, stopper (T.Markiewicz)</b>
09:00 - 09:30		<b>Vacuum and</b>
09:30 - 10:00		<b>Cryogenic (T.Peterson) – WH9SE</b>
10:00 - 10:30		<b>Coffee</b>
10:30 - 11:00	<b>Magnet &amp; PS (J.Tompkins) WH9SE</b>	<b>joint LLRF (S.Nagaitsev)</b>
11:00 - 11:30		<b>Instrumentation (RTML &amp; MLI) M.Wendt WH9SE</b>
11:30 - 12:00		
12:00 - 13:30	<b>Lunch</b>	<b>Lunch</b>
13:30 - 14:00	<b>joint with CF&amp;S and BDS (Tom Lackowski) WH9SE or</b>	<b>Instrumentation (BDS/ML/RTML) M.Wendt - WH9SE</b>
14:00 - 14:30		
14:30 - 15:00		<b>EDR Planning – WH9SE</b>
15:00 - 15:30	<b>Coffee</b>	<b>Coffee</b>
15:30 - 16:00	<b>EDR Planning (N.Solyak) WH9SE</b>	<b>Beamline Lattice Formats (PT)</b>
16:00 - 16:30		
16:30 - 17:00		

# Tuesday morning, Oct.23, 2007

**08:30-10:00** *Joint with Acc. Physics Group (convener K.Kubo)*

*location: WH1E*

- 08:30 - RTML lattice design and emittance preservation- (20') J.Smith or PT
- 08:50 - Status and plans for RTML LET studies in Cornell - (20') G.Dugan
- 09:10 - RTML related EDR work packages in Acc. Phys. Group (15') K. Kubo
- 09:25 - Dump Lines for the RTML - (15') Peter Tenenbaum
- 09:40 - Ultra-short Bunch compressor, status and plan (20') E. Kim (webex)
- ..... - Discussion of RTML / Acc. Phys work packages (20') (All)

**10:30-12:00** *Joint with Magnet Group (convener J.Tompkins)*

*location: WH9SE*

- - RTML DC magnets V.Kashikhin (?)
- - SC magnets status - V.Kashikhin
- - Pulsed magnets and PS
- - Discussion of the magnet WP's - All

# Tuesday evening, Oct.23, 2007

**13:30-15:00** *Joint with CF&S and BDS (convener T.Lackowski)*

*location: WH9SE*

- - Central station and DRX tunnels discussion - T.Lackowski
- - Power, water, air distribution in RTML -
- - RTML tunnel status, issues and plans - G. Aarons (?)
- - Discussion of RTML / CF&S work packages - All

**15:30-17:00** *Discuss overall approach to RTML WPs and EDR plans (convener N.Solyak)*

*location: WH9SE*

- RTML WPs - (tentative ) - N.Solyak
- Discussion of RTML WPs
  - Lattice Engineering design
  - Beam Physics and Develop specifications WP's
  - Technical WP's

# Wednesday morning, Oct.24, 2007

## **08:30-9:30** *Dumps, Collimation, Vacuum – (conv.TM)*

*location: WH9SE*

- - Dump, collimator, stoppers design status - T. Markewicz
- - Vacuum status and plans – J. Noonan (TBD)
- - Discussion of WP's

## **09:30-10:00** *RTML Joint with Cryogenic Group – (TP)*

*location: WH9SE*

- Discussion of RTML related PWs – T.Peterson

## **10:30-11:00** *Joint with LLRF (convener N.Solyak)*

- Proposal to measure RF stability at ILCTA/NML – S.Nagaitsev
- Discussion of WP on R&D on phase stability in BC1/BC2

# Wednesday evening, Oct.24, 2007

*11:00-12:00 Joint RTML with Instrumentation (M. Wendt)*  
*location: WH3NW*

- Discussion: RTML related work packages in Instrumentation Group

## **LUNCH**

*13:30-14:30 RTML/BDS/Instrumentation Group*  
*location: WH3NW)*

- Discussion Instrumentation WP's for all areas

*15:00 - Beam Line Lattice Format (30') - P.Tenenbaum*

*16:00->17:00 -Colloquium "What will the neighbors think?  
Building large-scale science projects around the world"*

# RTML work packages (Draft Oct.17, 2007)

- 1. Engineering Lattice design for EDR geometry**
- 2. Specifications development (Components, Alignments, Etc.)**
- 3. Accelerator Physics**
  - Static Tuning study
  - Errors sensitivity study
  - Failure mode analysis
  - Specify, Study Magnetic stray fields
  - Study space-charge effects
  - Study of beam halo in the RTML
  - Dynamic tuning. Specify and develop feed-back system
  - Beam Loss and radiation load simulations
  - Design, Specify MPS
- 4. R&D on phase stability in BC1/BC2 (beam timing)**
- 5. Alternative Ultra-short Bunch Compressor.**
  - Lattice design
  - Control of emittance growths
  - Sensitivity studies on machine errors

# RTML WP's (cont.)

## 6. Magnets and PS

- Design, specify & optimize DC conventional magnets
- Optimize number of types and apertures
- Design warm quads, bends and correctors
- Design and prototype BC wiggler wide aperture magnet
- Design, prototype quad/corrector for return line
- Design tune-up Septa and PS
- Design and Specify pulsed magnets
- Design tune-up extraction kickers and pulsers
- Design feed-back, feed-forward correctors and PS
- Design/prototype SC quad/corrector for BC1/BC2
- Design, specify SC solenoid
- Optimize PS and cabling
- Design, specify DC PS
- Design stable supports for magnets

## 7. Collimation system

- Optics design
- Theoretical and computer simulations of wakefields
- Engineering design of the collimator



## RTML WP's (cont.)

- **Beam Dump system (5-15 GeV; 220kW)**
  - Energy deposition and radiation shielding simulations
  - Engineering design of the dump
  - Design/costing handling system
- **RTML Vacuum system**
  - Layouts, pump valves, bellows locations
  - Engineering design of the vacuum system in return line
  - Impedance design of vacuum system
- **RTML Instrumentation**
  - Specify Instrumentation requirements, interfaces, locations
  - Specify warm BPM
  - Alignment system design
  - Design of feedbacks
- **Specs for CF&S**
  - Define tunnel configuration of arcs and turnaround
  - Define air, water, power requirements
  - Define equipment locations in service tunnel
  - Define specs for installation model
  - Define alignment system and stability requirements