BDS/MDI Report

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Sessions and Talks

Speaker	Title	
Karsten Buesser	MDI Update from ILD	
Marco Oriunno	MDI Update from SiD	
Keith Riles	Report on Frequency Scanned Interferometry R&D for Magnet and Tracker Alignment	Detectors
Burak Bilki	Compton Polarimetry for Future Linear Colliders	
Aura Rosca	Measurement of the beam polarization using the semileptonic WW process	
Graham Wilson	Beam polarization studies with single bosons	Polarimetry
Wolfgang Lohmann	Performance of a fully instrumented sensor plane for FCAL	FCAL
Bruce Schumm	Electromagnetically-Induced Radiation Damage Studies in a Realistic Environment	
Philip Burrows	IP Feedback tests at ATF2	
Tony Hartin	Strong field beamstrahlung simulations	
Oscar Blanco	FFS Lattice optimization for Synchrotron Radiation effects	Optics
Hector Garcia	Comparing traditional and local chromaticity correction FFS for CLIC	
Hector Garcia	ILC FFS beam dynamics	
Yngve Levinsen	Solenoid effects in CLIC	
Yves Renier	Ground motion feedback for ATF2	
Larisa Malysheva	BDS for the ILC: Low energy option	
		CLIC FD & Stabilization
Michele Modena	CLIC QD0 Short Prototype Status: Final assembly and Magnetic Measurements	
Christophe Collette	Simplified models of ILD and SiD detectors: Simulations and scaled test bench	
Andrea Jeremie	Vibration Stabilization Experimental Results	Engineering
Moritz Beckmann	Spin Tracking Studies in the BDS	
Fernando Ramos	Earthquake protection for LC detectors	Future
Takahiro Okamura	Cryogenic System of the ILC Central Region in a Japanese Mountain Site	
Marty Breidenbach	Discussion of Post TDR MDI and Detector Integration Issues	

Themes

- Steady progress on technical MDI work detailing the IR Halls, push pull system, alignment, vacuum systems and their documentation in the DBD
- Overall satisfaction with state & quality of TDR & DBD
- Optics decks for SB2009 versions of the ILC lattice for 3.5 and 4.5m L* produced
- “Construction TDR” level detail in IR Hall cryogenic design for the Japanese Mountain site
- Repeated wish/hope that site specific details could be incorporated into detector assembly models
- Fear that push-pull technical items thought to now be handled by “machine-side” (platform & motion systems), will not be

Next Steps

- Further detailing of machine-detector integration issues
  - Forward region integration with QD0, including movers, services, vacuum & beam instrumentation, etc. Validity of QD0 dimensions.
  - Alignment of detector to beamline after transport on platform. This presumably needs a coarse system covering the full range of motion, and an additional system with a conservative 1 mm tolerance measuring xyz and roll at both ends of the detector.
  - Platform design progress. There is substantial interest in the choice between rollers and airpads. Preliminary work is needed for door motion rail design; seismic restraints; and any tolerances for detector placement on the platform.
  - Surface Assembly Facilities. Only a crude estimate of the space require for detector subsystem assembly was made.
    - **Transport vehicles with capacities up to 200 tonnes will be needed to move subsystem components to the underground.**
  - Local Control Rooms. What is scope of permanent facilities associated with the experiment? Are onsite "hotel" facilities provided?
  - Interaction Region Hall utilities:
    - **HVAC**
    - **Lighting**
    - **Power**
      - Clean power to detector
      - Power to walls for tools, welding
    - **Chilled water**
    - **Low Conductivity water**
    - **Compressed air**
    - **He Supply and Suction – need first sizing of suction lines for 2K systems.**
    - **Fire suppression systems**
  - Welding constraints: Ventilation, permits, etc.
  - Local machine shop.
  - Detector access: Man lifts, crane baskets?
- Magnetic & Vibration Tests of QD0 prototype
  - **Final designs for each L* and Energy**
- Scenario for machine commissioning during detector construction (should have been in TDR/DBD):
  - **Shielding, detectors, …**