

“Detector MDI”- IPBI Introduction

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Topics:

- i. **Energy and Lumi Spectrum;** E. Torrence
- ii. **Polarization/Polarimetry;** M. Woods
- iii. **Forward Region;** W. Lohmann
- iv. **Beam RF and EMI** (electromagnetic interference); D. Bailey

Agenda: (see agenda on Snowmass program website; includes related MDI talks/discussion in detector concept groups)

- i. **Today 1:30-2:30:** introductory talks
- ii. **Form mini-WGs on these 4 topics**
 - times to be scheduled (Anderson meeting room is available Thursday, Friday; Gatehouse lobby on Monday)
- iii. **Thursday 2:30-3:30:** forward region talk/discussion in Anderson
- iv. **Reports from 4 WGs on 8/23; joint with WG4?**



Tuesday (8/23). Room: *tba*

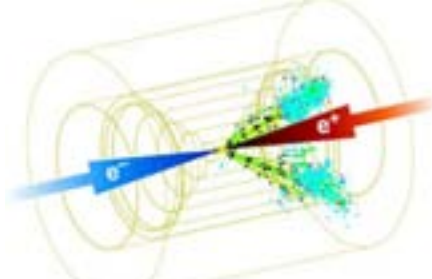
Joint w/ WG4?

TIME	WG: Topic	Session Chairs
10:00 - 12:00	IPBI: Reports from Forward Region mini-WG <ul style="list-style-type: none"> - Design of LumiCAL - performance of BeamCAL for vetoing high-energy electrons - BeamCAL design; A. Elagin - beam tests for BeamCAL? - functionality of BeamCAL and PhotoCAL - estimate of the reduction in SUSY signal efficiency for benchmark point D' from the crossing-angle geometry; Zhiqing Zhang/P. Bambade 	Lohmann, Torrence, Yamamoto
1:30 - 3:30	IPBI: Reports from Energy, L(E) mini-WG <ul style="list-style-type: none"> - simulation tools needed - effects of ramping upstream bpm chicane for calibration: every 10 minutes? how to get good energy measurements when ramping? delivered luminosity ok during ramping? - realistic extraction line design; apertures ok? - Zpole calibration? performance at Zpole? 	Boogert, Torrence, Kubo
4:00 - 4:30	IPBI: Reports from Polarimeter mini-WG <ul style="list-style-type: none"> - Difference of incoming, outgoing and luminosity weighted polarisation. - Is downstream polarimetry with 2 mrad crossing angle possible? beam spotsize at Compton IP? - evaluate different parameter sets for extline pol. - sensitivity to misalignments, beam offsets 	Moenig, Omori, Woods
4:30 - 5:00	IPBI: Reports from EMI mini-WG <ul style="list-style-type: none"> - C. Damerell on EMI considerations for VXD - beam test to characterize EMI along ESA beamline 	Sugimoto, Bailey, Woods

Schedule these together between concepts, IPBI and WG4?

Thursday (8/25).

TIME	WG: Topic	Speaker	Room
10:00 - 12:00	GLD: MDI session	Chair: T. Tauchi	Janns
11:30 - 12:00	SID: SID MDI Conclusions	Phil Burrows	Carroll
4:50 - 5:25	GLD: MDI Summary	Toshiaki Tauchi	Janns



Energy, Lumi spectrum and Polarimetry

- potentially 8 spectrometers and polarimeters! (upst/down x 2 beams x 2 IRs)
- conceptual designs exist and are included in WG4 optics decks
- need to evaluate current designs, address critical questions and develop reference design, to be documented by Feb 2006
- evaluation of physics-based measurements

Forward Region

- need for hermetic detector with high electron id efficiency (99.9%?) to 5mrad!!
- potentially important for SUSY and dark matter estimates
- importance for beam diagnostics and beam tuning

EMI

- effects of short bunches, crab cavity, rf kickers?
- system sensitivities? Develop standards for acceptable EMI from accelerator and detector systems
- potential impact on VXD technology, detector electronics and DAQ architecture