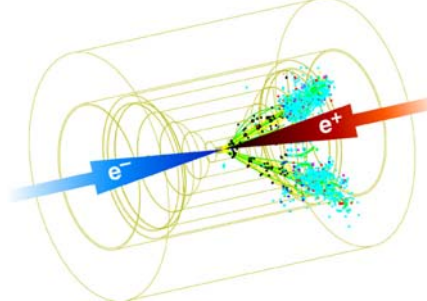




Beam RF Effects Update

Mike Woods, SLAC

- Session on this at MDI Workshop,
<http://www-conf.slac.stanford.edu/mdi/sessions/beamrf.htm>
- Talks at this Workshop:
 - i. Test Beam session, “ILC Tracking and Test Beams Status and Plans”
D. Bailey, U. of Bristol
www-conf.slac.stanford.edu/lcws05/program/session.asp#o
 - ii. DAQ session, “MDI Issues for DAQ (EMI and Backgrounds)”
M. Woods
www-conf.slac.stanford.edu/lcws05/program/session.asp#m

Beam RF Effects Summary

From MDI Workshop, Jan. 2005

Significant impact on:

- RF shielding for beamline and detector components
- Detector design
- Signal Processing and DAQ architecture

Beam rf effects have had a significant effect at previous colliders:

ex. SLC, PEP-II, HERA, UA1

beampipe heating and EMI from HOMs

**Detector physicists MUST study this seriously
together with the accelerator experts**

Beam Test at SLAC ESA to further investigate this is proceeding:

- with SLD's VXD3 and with simpler beampipe
- strong desire for this from international vertex community
- can provide important information for VXD design and for signal processing/DAQ for all LC Detector systems

Working group participants: M. Woods, C. Hast, N. Sinev, R. Arnold, S. Worm,
D. Bailey, D. Cussans, Y. Sugimoto, T. Nelson, S. Parker, ...

EMI Testbeam Plan

- Tentative plan as follows
 - First develop necessary sensors to categorise RF environment
 - Instrument FFTB area with pickup coils and capacitors
 - Non-intrusive, will operate in parallel with existing programme
 - Aim is to get this effort started by end 2005

David Bailey LCWS05

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EMI Testbeam Plan

- In parallel
 - Get VXD3/R20 up and running
 - Do engineering to get it into endstation A beamline
 - Will need to submit a formal testbeam request for this
 - Attempt to reproduce problems seen by SLD
 - Find out the cause and how to fix it!
- This will follow on from the FFTB work, hopefully towards the middle of next year
 - All depends on linac restart/schedule