

A Report of LCWT09

**LCWT09
3-5Nov. 2009, LAL Orsay**

**Registration: 37
Attendant from LC TPC collaboration
Klaus Dehmelt, Ron, Martin and myself.**

**T. Matusda
11 Nov, 2009**

Issues of the Workshop (To my understanding)

Summary of results of ILC beam tests:

Plans of R&D and beam tests for ILC in future:

Availability of test beams in the world in coming years

Test beam for ILC detector R&D's:

A common test beam line (or a dedicated test beam area): We are going to request one with well advance. But 2012 might be a bad year for beam tests both at CERN and FNAL.

ILC beam structure: Possible both at FNAL and CERN. We will gather our needs by mid January at the conveners of the sub detectors sessions.

(I said that for TPC it may not be mandatory. I think that we need other device, such as a laser or a flash lamp, to mimic the ion disks.)

Combined beam test for ILC detector R&D: Un realistic in the near future (before 2012 at least).

Funding for the common test beam (and beam tests):

Workshop Document

Roman Poeschl

1) Meeting on write-up around 15/1/10

Summary on requests for time structure of beams.

Discussion on requests for common beam lines (who and how?)

2) 1st Drafting phase until 28/2/10

3) Educated draft for LCWS2010 and summary at LCWS2010

4) Finalizing the document until Summer 2010

The requests for common beam lines have to be launched early enough. We may use latest the meeting in January to coordinate tentative actions.

Erik Ramberg/Fermilab

Draft 2010-13 Fermilab Accelerator Experiments' Run Schedule

Typically Revised Annually - This Version from October, 2009

Calendar Year		2010	2011	2012	2013
Tevatron Collider		CDF & DZero	CDF & DZero	OPEN	OPEN
	Neutrino Program	B	MiniBooNE	MiniBooNE	
		OPEN	OPEN		MicroBooNE
		MINOS	MINOS		OPEN
		MINERvA	MINERvA		MINERvA
MI		ArgoNeUT		NOvA	NOvA
SY 120	MT	Test Beam	Test Beam		Test Beam
	MC	OPEN	OPEN		OPEN
	NM4	E-805/Drell-Yan	E-805/Drell-Yan		E-805/Drell-Yan

This draft schedule is meant to show the general outline of the Fermilab accelerator experiments schedule, including unscheduled periods.

Major components of the schedule include shutdowns:

In Calendar 2010, a 4-6 week shutdown for maintenance is shown.

In Calendar 2011, no shutdown for maintenance is shown.

A 2012-3 11-month shutdown is shown to upgrade the proton source and change the NuMI beam to the Medium Energy (ME) config.

- RUN/DATA
- STARTUP/COMMISSIONING
- INSTALLATION
- M&D (SHUTDOWN)

19-Oct-09

To be confirmed by Erik Ramberg, Fermilab.

FNAL Test Beams

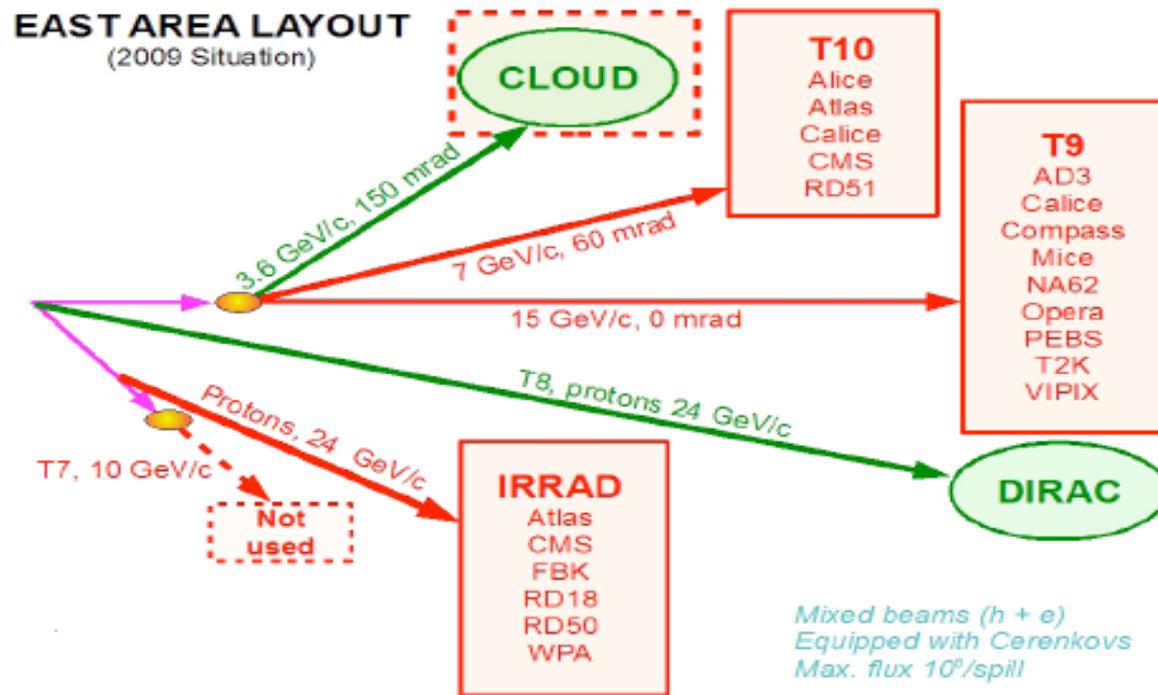
by Erik Ramberg, Fermilab

Summary

- The MTest facility continues to support a large variety of advanced detector tests
- The beamline is quite versatile, delivering secondary beams from 1 to 64 GeV, and a primary beam of 120 GeV protons. Electrons are dominant at low energies. Muons can be selected for with a beam stop.
- A new tertiary beam is being developed, which should deliver tagged pions down to 300 MeV/c.
- Two new pixel telescope systems have been created for the facility, with resolutions of 5-10 microns.
- A new TOF system has been tested, with a resolution of 24 psec. Individual measurements on a 4 cm MCP/PMT show 6 psec resolution
- A proposal has been approved at Fermilab to support test beam activities in the MCenter beamline, perhaps in conjunction with the MIPP experiment.
- Can support irradiation tests for thin detectors

CERN Test Beams by Lucie

The East Experimental Areas at the PS ⁵

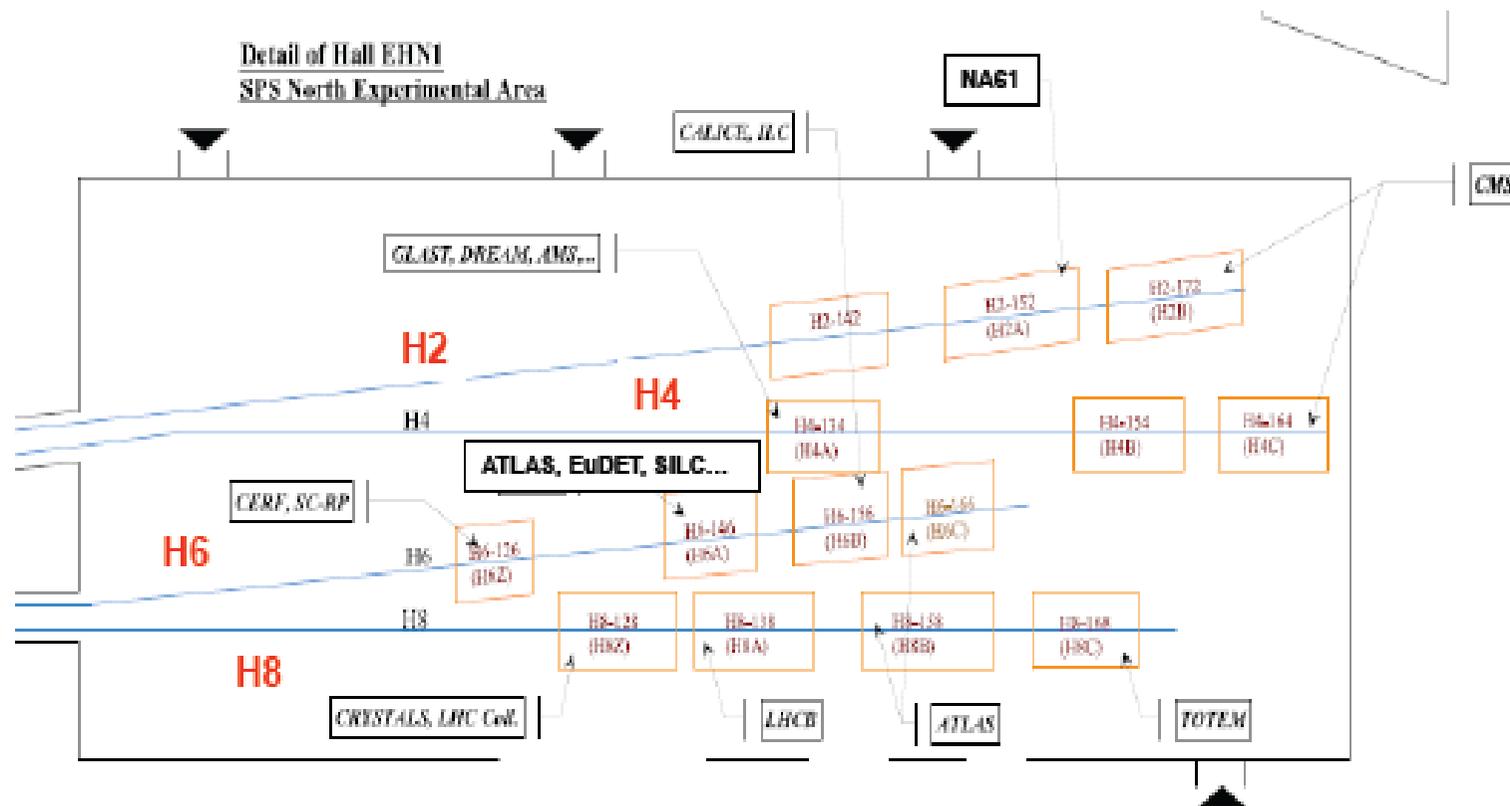


Lucie Li

Spill structure from PS

- 400 ms spill length
- typically 1 spill every 33.6 s, more on request

North Area Test Beams



Up to 4 user areas per beam line

Possibility to take parasitic muons behind main user

Some areas permanently occupied by LHC users (ATLAS, CMS, LHCb, TOTEM)

CERN test beam magnets



- **PS east hall:**
 - TPC-90 magnet (last used by HARP), solenoid diam. cm, 224 cm long, 0.7 T (~1.3 T in pulsed mode).
- **EHN1, H2 beam line:**
 - M1 magnet, superconducting, large dipole, 82 cm gap, 1.4 m diameter, Field 3T, used by CMS
 - MNP22A, C-shaped classical dipole, 50 cm gap, 1 m width, 1 m depth, 1.37 T (presently 0.7 T)
- **EHN1, H4 beam line:**
 - Goliath (last user NA57), large classical dipole, ~160*240*360 cm, 0.85 T field
- **EHN1, H8 beam line:**
 - Superconducting dipole, diam. 1.6 m, ~4 m overall length, 1.56 T field at 5000A, used by ATLAS, contains a rail system for inserting detectors

<http://project-fp7-detectors.web.cern.ch/project-FP7-detectors/TEST%20BEAM%20LINKS.htm>

Summary of CERN Test Beams by Lucie

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Summary

- CERN has worldwide unique opportunity for detector and physics tests
 - PS and SPS beam-lines
 - Technical support and infrastructure provided by CERN
- Facilities are heavily used
 - Always fully booked
 - Already much used by the linear collider community
- ILC-type time structure seems possible at PS
- Possibility for LC semi-permanent testbeam infrastructure
 - Will require common effort
 - Will require common motivated request to SPSC committee
 - H6 location most likely, as already used by LC community
 - However 200 GeV limit is a problem for CLIC detector tests