Fermilab-Chicago Psec Timing Planning Meeting

Saturday, Mar. 17, 2018: University of Chicago Physics Research Center PRC201; enter South Entrance

Version 1.0
February 26, 2018

Organizing Committee
Andrey Elagin (Chicago; Co-Chair), Henry Frisch (Chicago; Co-Chair), Ron Lipton (Fermilab; Co-Chair), Luciano Ristori (Fermilab; Co-Chair), Ed Blucher (Chicago), Steve Brice (Fermilab), Marcela Carena (Fermilab), Petra Merkel (Fermilab), Michael Minot (Incom), Razmik Mirzoyan (MPI, Munich), Pasha Murat (Fermilab), Sergei Nagaitsev (Fermilab), Stephen Parke (Fermilab), Erik Ramberg (Fermilab), Dave Schmitz (Chicago), Qian Sen (IHEP Beijing), Maria Spiropulu (Cal Tech), Bob Wagner (ANL), Yau Wah (Chicago), Yifang Wang (IHEP Beijing), Matt Wetstein (Iowa State), Peter Wilson (Fermilab)

Introduction and Context

Last November Fermilab and the University of Chicago held a one-day meeting at UC to discuss and encourage re-establishing closer ties between the two institutions. The upcoming meeting is in response to this thrust, focused on the role high resolution time measurements could offer new opportunities in the future Fermilab program.

Goals

The charge to the speakers is:

Identify what new physics can be explored in the future program at Fermilab with large-area 0.5-1 psec TOF for charged particles and high-energy photons, and with single optical photons at 5-10 psec.

The intent of these short talks is that they should be really forward-looking. The talks should focus on new physics reach and innovative experimental designs (e.g. using mirrors and light-travel times), but not on any specific sensor technology. Speakers are being encouraged to use chalkboard (we have lots of colored chalk)- no need for the speakers to prepare slides for anything other than detector designs and plots for performance if necessary. Numbers can go on the blackboard, Enrico Fermi style. Our biggest concern is wasting time on traditional introductions, descriptions of present detectors, boilerplate, or prosaic bullets - this is a time and place to think 20-25 years out.

We can debate the basis for the assumptions on sensor capabilities separately (i.e. not in this meeting, please), but are instead really interested in what new physics and new experiments could be done if psec level timing can be achieved.

1For discussions of sensor time resolution, see the 2011 Workshop The Factors That Limit Time Resolution in Photodetectors, April 28-29, University of Chicago, at http://psec.uchicago.edu/workshops/fast_timing_conf_2011/. In particular note the two talks of S. Ritt.
Web Site

The meeting web site is:

[efi.uchicago.edu/content/fermilab-chicago-timing-planning-meeting](efi.uchicago.edu/content/fermilab-chicago-timing-planning-meeting)

Registration

The Registration page is linked to the web site:

: Goodies at Coffee and Lunch will be provided. Please register as it helps us plan the amount of food.

Agenda

The current draft agenda is at:

[efi.uchicago.edu/sites/efi.uchicago.edu/files/uploads/Sat_agenda_v6a_nonames.pdf](efi.uchicago.edu/sites/efi.uchicago.edu/files/uploads/Sat_agenda_v6a_nonames.pdf)

Parking, Accommodations, etc.

Parking is often a serious issue in Hyde Park, but having this on a Saturday will allow street parking on 56th St. west of the Physics Research Center and on Ellis Ave., in particular north of 57th St. If all else fails, directions to the UofC parking facility are available at the link from the main web page.

Contacts and Help

For help with accommodations or other travel-related problems please contact Holly Jaffe at holly2@uchicago.edu (phone 773-702-8113).