International Symposium on Ultrafast Accelerators for Pulse Radiolysis

Brookhaven National Laboratory, Long Island, New York
Chemistry Building, Hamilton Seminar Room

Agenda

Friday, June 25, 2004

5:00 – 9:30 pm Arrival and check-in.

Saturday, June 26, 2004

8:00 am Breakfast and poster set-up

8:20 Introductory remarks (J. F. Wishart, J. R. Miller)

Session I: Ultrafast radiolysis facilities: Photocathode systems
(Including accelerator system designs and design considerations for pulse radiolysis)

8:30 The Brookhaven LEAF pulse radiolysis facility, James Wishart, BNL

8:55 Design and construction of ultrafast pulse radiolysis system using laser photocathode rf-gun combined with fs laser, University of Tokyo, Yusa Muroya, University of Tokyo

9:20 ELYSE Facility: Cs_2Te photoinjector, Hugues Monard, Univ. de Paris-Sud, Orsay

9:45 Recent status of the linac facility at Osaka University, Akinori Saeki, Osaka University

10:10 Refreshment break

10:30 Development of high charge, short pulse photocathode accelerator systems, Anthony Favale, Advanced Energy Systems

10:50 High quality beam at Waseda Univ. and Sumitomo Heavy Industries, Ltd., Yosuke Katsumura, University of Tokyo

11:10 Ultrashort laser/electron pulse facility for the study of charge and exciton dynamics in functional materials, Laurens Siebbeles, Technical Univ. of Delft

11:30 Detection systems at LEAF, Andrew Cook, BNL

12:10 **Lunch**

Session II: Ultrafast radiolysis facilities: Terawatt laser systems

1:30 pm Terawatt Ultrafast High Field Facility: Using photons to accelerate electrons, Robert Crowell, Argonne National Laboratory

1:55 Laser plasma cathode by a 12 TW, 50 fs laser and its application to radiation chemistry, Mitsuru Uesaka, University of Tokyo

Session III: Experimental detection systems for pulse radiolysis and other applications

2:20 Performance and application of ultrafast pulse radiolysis system using laser photocathode rf-gun combined with fs laser, Mingzhang Lin, University of Tokyo

2:45 Beam application to nanotechnology based on subpicosecond pulse radiolysis, Seiichi Tagawa, Osaka University

3:10 Refreshment break

3:30 The first experiments on ELYSE picosecond electron accelerator, Jean-Louis Marignier, U. Paris-Sud, Orsay

3:55 Frequency-domain “single-shot” spectroscopy with chirped pulses, Ilya Shkrob, Argonne National Laboratory

4:20 **Group Photo** and **Laser-Electron Accelerator Facility (LEAF) tour**

6:00 **Dinner: American-style backyard summer cookout**

7:30 – 9:00 pm **Session IV: Posters**, Chemistry Building Lunchroom

Sunday, June 27, 2004

8:00 am **Breakfast**

Session V: Experimental applications of ultrafast pulse radiolysis

8:30 Fast pulse experiments on molecular processes in organic ions, J. R. Miller, BNL

8:55 Spur kinetics in water using the Argonne linac, David Bartels, Notre Dame Radiation Laboratory

9:15 Picosecond radiolysis and photolysis at Saclay, Stanislaus Pommeret, Commisariat d'Energie Atomique, Saclay

9:35 Probing high local concentrations in track structure of high LET radiolysis, Gérard Baldacchino, Commisariat d'Energie Atomique, Saclay

9:55 Radiation chemistry research at Pune University, K. Kirankumar Sharma

10:15 Femtochemistry of little men, Ortwin Brede, University of Leipzig

10:25 Refreshment break

Session VI: Technical Roundtable part 1 (operating experiences, problems and solutions)

A 5-minute presentation of each technical issue will be followed by open discussion. Each topic will be given up to 30 minutes total. Participants are encouraged to contribute their own overheads or PPT files. (One computer will be used. Please put files on pen drives or CDs.)

10:40 Photocathodes (types, efficiency, lifetime, behavior, saturation, special considerations)

11:10 Pulse width measurement and control (real-time, non-destructive)

11:40 Temperature control for systems that are frequently cycling on and off, power dissipation

12:10 **Lunch** (note – only 50 minutes)

Session VII: Technical Roundtable part 2 (operating experiences, problems and solutions)

1:00 Real-time automated control of laser and accelerator performance

1:30 Detection schemes for T^3 radiolysis

2:00 Other topics suggested by participants

2:30 Refreshment break

Session VIII: Tours of closely-related BNL accelerator facilities

3:00 pm Tour of the Accelerator Test Facility (ATF), Takahiro Watanabe, BNL

4:00 Tour of the Deep-Ultraviolet Free Electron Laser Facility (DUVFEL), Xijie Wang, BNL

5:00 End of tour.

Monday, June 28, 2004

(Participants should obtain breakfast at the Berkner Hall Cafeteria.)

Session IX: Symposium Summary and Future Plans

8:30 Conference Summary (J. F. Wishart)

9:00 Discussion of plans for future symposia on ultrafast accelerators (Participants)

9:30 End of program.