

The Physics and Applications of High Brightness Electron Beams 2005
Erice, Sicily, October 9-14, 2005
2nd Announcement



Dear Colleague,

It is with pleasure that we invite your participation in the workshop entitled “The Physics and Applications of High Brightness Electron Beams”, to be held in Erice, Sicily, October 9-14, 2005. This workshop which has been endorsed by the ICFA Panels on Beam Dynamics and Advanced & Novel Accelerators, is the latest in the joint tradition of the “Arcidosso” and High Brightness Beam series. The workshop will be hosted by the “E. Majorana” Centre in Erice.

The workshop mission is given in the following statement:

High brightness electron beams are playing an increasingly critical role in two frontier fields: radiation generation methods and advanced acceleration schemes. Such state-of-the-art radiation production methods include various types of free-electron lasers, as well as inverse Compton scattering (ICS) of intense lasers, having diverse approaches to creating high peak and average power light sources. As they are capable of harder photon production, ICS sources are candidates not only for X-ray sources, but also high-energy physics applications. Likewise, high brightness beams are at the center of future accelerator schemes, e.g. based on high gradient wakefields, and electron cooling. Indeed, possibilities exist to create unique light sources based on advanced acceleration schemes, just as intense lasers and X-ray beams enable advanced accelerator research. The goal of this workshop is to provide a comparative study of the generation, manipulating, modeling and measuring of high brightness electron beams, and the underlying methods linking the physics of these beam systems to the physics of advanced applications.

The web site for the workshop is found at
<http://www.physics.ucla.edu/PAHBEB2005/>

- Registration is open. As the number of attendees will be limited, early registration is encouraged. The registration fee will be 600 Euro, and will include lodging, full board, travel from Palermo and a copy of the conference proceedings.
- The proceedings will be published by World Scientific; a special issue of PRST-AB dedicated to the workshop is also planned.

The following working groups are foreseen:

1. Sources, including photoinjectors and plasma-based sources_ (Chair TBA)
 2. Manipulation and diagnosis of high brightness beams _ (G. Travish, Chair)
 3. Theory and modeling, simulation challengers_ (L. Giannessi, Chair)
 4. Applications of high brightness beams in advanced accelerators and light sources (M. Uesaka, Chair)
- Contributed talk titles and abstracts are now being accepted online.

Workshop Schedule

	Monday, 10/10	Tuesday, 10/11	Wed.,10/12	Thurs., 10/13	Friday, 10/14
8:30-9:15	Opening Workshop organization	Working group reports			8:30-9:15 Working group 1 final summaries
9:15-9:45	Stefan	Reiche	Krushelnick	Bonifacio	9:15-10:00 Working group 2 final summaries
9:45-10:15	Sekutovicz	Krafft	Hogan	Giannessi	Coffee
10:15-10:30	Coffee				
10:30-11:00	Luiten	Uesaka	Thompson	Giulietti	10:30-11:15 Working group 3 final summaries
11:00-11:30	Ben-Zvi	Rosenzweig	Bane	L. Schacter	11:15-12:00 Working group 4 final summaries
11:30-12:00	Limborg	Anderson	Alesini	Stupakov	12:00-12:30 Closing
12:00-12:30	Ryne	Zolotorev	Brau	Jaroszynski	
12:30-13:45	Lunch				
13:45-15:30	Working groups		Social program	Working groups	
15:30-15:45	Coffee			Coffee	
15:45-16:30	Working groups			Working groups	
16:30-17:00	Van der Geer	Shaftan			
17:00-17:30	Roux	Kishek			

Note: the invited talks are 25 minutes +5 minute discussion.

Invited Speakers

1. M. Hogan (SLAC), Electron Beam-Based Wakefield Acceleration,
2. O.J. Luiten (Eindhoven), Optimized Electron Beam Sources
3. S. Krushelnick (Imperial College), Production of High Quality Electron Beams from Laser Plasma Interaction
4. M. Thompson (UCLA/LLNL), Underdense Plasma Lens Focusing
5. Timur Shaftan (BNL), High-brightness electron beams with tunable modulation
6. M. Uesaka (Tokyo), High Brightness Beam Applications: Inverse Compton Scattering
7. Luca Giannessi (ENEA) Ultra-short Pulses from Super-radiant Seeded FEL
8. L. Schachter, Technion), Laser Acceleration in Structures
9. J. Rosenzweig (UCLA), Ultra-intense Beam Effects in Plasma Wakefields: Applications to HEP
10. R. Ryne (LBNL), Computational Challenges in High Brightness Beam Physics
11. S. Reiche (UCLA), High Brightness Beam Applications: FEL
12. G. Krafft (JLAB), High Brightness Beam Applications: ERL
13. D. Alesini (U. Roma), RF deflector-based sub-ps beam diagnostics: application to FELs and advanced accelerators
14. I. Ben-Zvi (BNL), Secondary Emission Photo-cathodes
15. C. Brau (Vanderbilt), Needle Cathodes
16. J. Sekutovicz (DESY), Superconducting RF Photoinjectors
17. S. Anderson (LLNL), Simultaneous production of fs beam pulses and micron beam spots
18. R. A. Kishek (Maryland), Scaled Electron Models: Space-Charge-Dominated Electron Storage Rings
19. D. Giulietti (Pisa), High brightness laser induced multi-MeV electron/proton sources
20. R. Bonifacio (Milano), Quantum SASE FEL theory
21. D. Jaroszynski (Univ. of Strathclyde), The TOPS Project
22. G. Stupakov (SLAC), Review of FEL beam conditioning schemes
23. K. Bane (SLAC) Wakefields of sub-picosecond electron bunches
24. F. Stephan (DESY-Zeuthen), Status and Perspectives of Photo Injector Developments for High Brightness Beams
25. C. Limborg (SLAC), Laser shaping in photoinjectors for high brightness beams
26. R. Roux (Orsay), Orsay work on CLIC photoinjector
27. B. van der Geer (Eindhoven), Conceptual design of a 1 kA, 100 fs, 1 micron split rf-photoinjector
28. M. Zolotarev (LBNL), An Ultra-Bright Pulsed Electron Beam with Low Longitudinal Emittance

We hope to see as many of you as possible in Erice in October!

L. Palumbo (Univ. Roma)

J. Rosenzweig (UCLA)

L. Serafini (INFN-Milano)