



ATF's 12th year!

- The ATF is a **proposal-driven, advisory committee reviewed USER'S FACILITY** for long-term R&D in Accelerator and Beam Physics.
- The ATF features high-brightness e beams synchronized to high-power lasers.
- The ATF serves the whole community: National Labs, universities, industry and international collaborations.
- ATF contributes to Education in Beam Physics.
- In-house R&D on photoinjectors, laser, diagnostics, computer control and more.
- Support from DOE, (HEP and BES), BNL Directorate and our users.

ATF: A RESOURCE FOR ACCELERATOR SCIENCE

The ATF User's Meeting and Program Advisory Committee Meeting

- In this meeting the ATF users and potential users come to hear about the progress in the facility, its experiments and present new proposals.
- The ATF Program Advisory Committee (APAC) is selected by R. Palmer, reviews proposals and advises R. Palmer on the program.
- APAC Chair is Professor C. Joshi. Previous chairs:
 - Professor Robert Siemann, Stanford Linear Accelerator Center
 - Dr. Andrew Sessler, Lawrence Berkeley National Laboratory
 - Professor Maury Tigner, Cornell University

ATF Program Advisory Committee

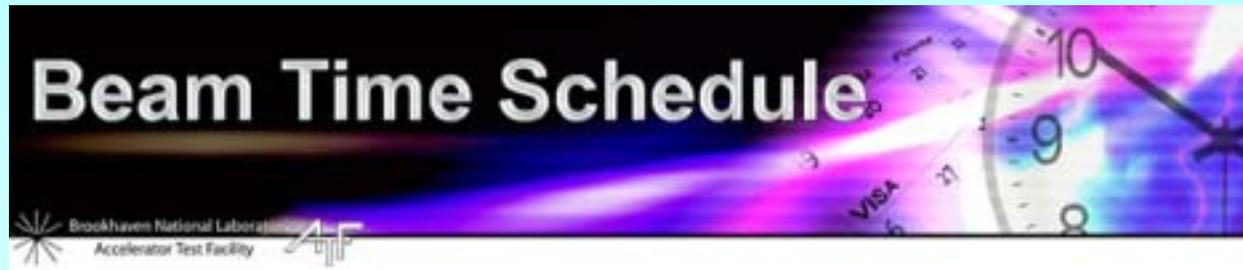
- Professor C. Joshi, Chair, UC at Los Angeles
- Professor S. Chattopadhyay, TJNAF
- [Professor R. Gluckstern, University of Maryland]
- Dr. M. Harrison, Brookhaven National Laboratory
- Dr. S. Milton, Argonne National Laboratory
- Professor P. O'Shea, University of Maryland
- Professor R. Ruth, Stanford Linear Accelerator Center
- Professor T. Smith, Stanford University

What is new at the ATF:

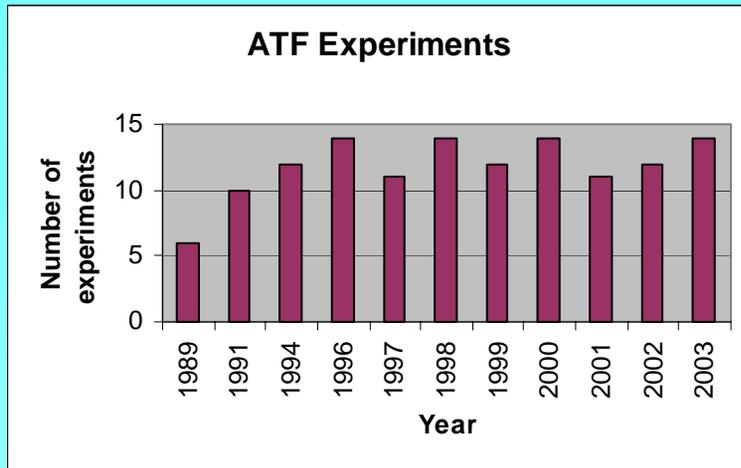
- The ATF moved to the Physics Department.
- ATF Users now served by the RHIC-AGS Users' Center
- Vitaly Yakimenko was assigned as Deputy ATF Director.
- Karl Kusche was appointed as the ATF's ESH&Q officer.
- New faces at the ATF: Kelly Bergesen (software and graphics), Todd Corwin (Mechanical and electrical systems), Don Davis (laser and mechanical systems), Igor Pavlishin (laser physics) Takahiro Watanabe (accelerator physics).
- The facility performance continues to increase.

Making a better facility:

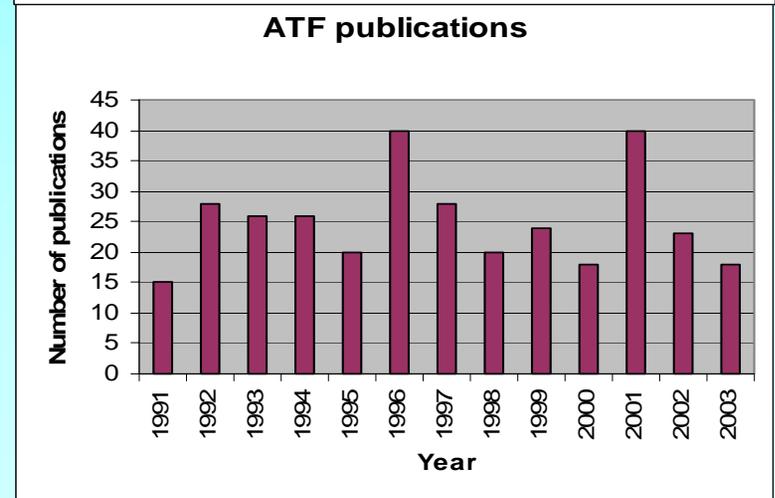
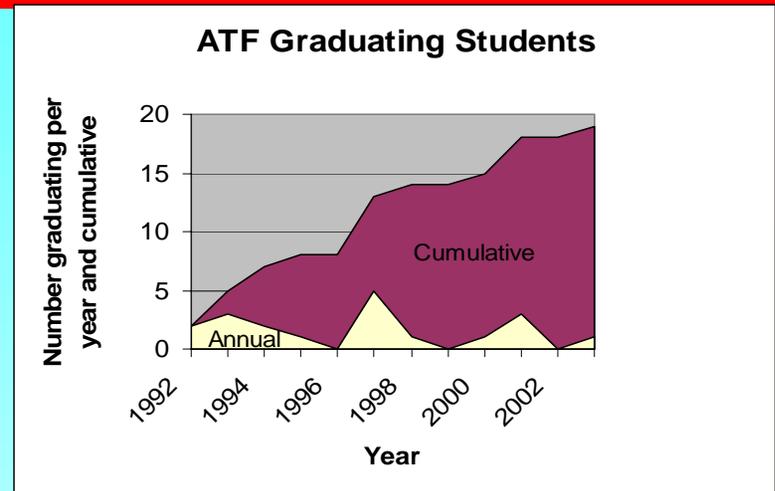
- Continuous improvement of brightness, stability, experimental chambers, diagnostics, control systems and much more: Hear the next presentation by Vitaly Yakimenko.
- Higher power lasers, new channeling capabilities, better uniformity, stability... Hear presentation by Igor Pogorelsky and Marcus Babzien.
- Improved communications with users: Long-range schedule, web information, e-mail newsletter, training...



ATF Statistics

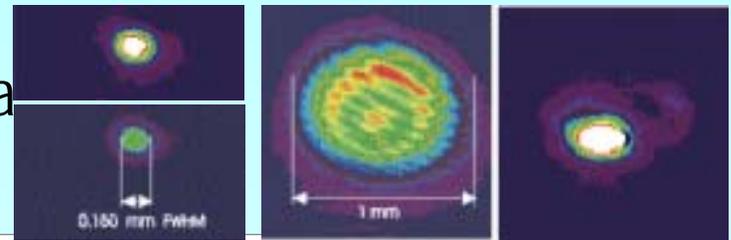
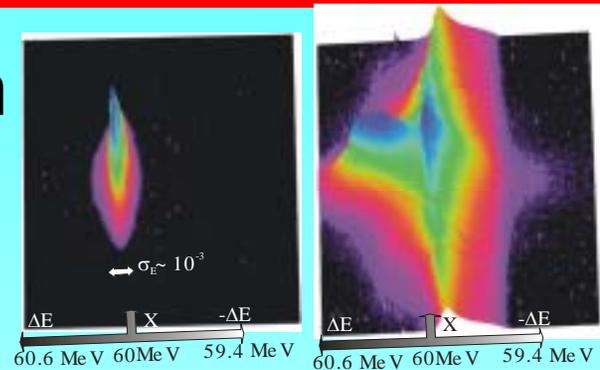


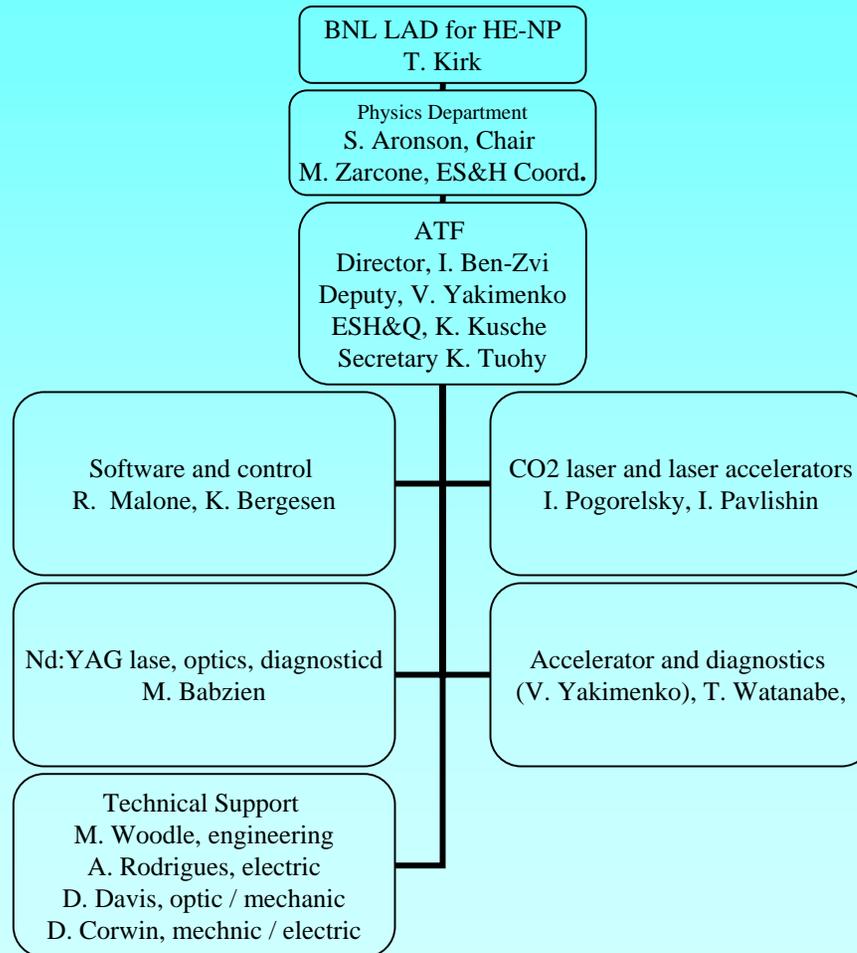
Run time: ~ 1000 hour / year
Graduated students: 19
Current number of experiments: 14
Staff members: 11, 1 visitor
Phys Rev X: ~ 3 / year since 1995



Getting spectacular results...

- High-Gain Harmonic Generation FEL, Visible SASE FEL, photoinjectors...
- and since last meeting:
 - Measurement of focusing as function of phase in plasma wake-field
 - Mono-energetic laser acceleration
 - CO2 laser channeling in plasma





The agenda for this meeting: The ATF

Thursday

9:50 - 10:20 ATF Operations, Performance and Upgrades,
V. Yakimenko, ATF

10:20 - 10:50 * Coffee Break *

10:50 - 11:20 The ATF Lasers, I. Pogorelsky, ATF

3:00 - 3:15 Development of diagnostic systems for
ATF operation/experiments, Takahiro Watanabe, BNL

**Friday (the whole morning) –
visit the ATF and its experiments**

The agenda for this meeting: Reports from User Experiments

11:20 - 11:35 Plasma Experiments,

Vitaly Yakimenko, ATF

11:35 - 11:50 Staged Electron Laser Acceleration,

Wayne Kimura, STI Optronics

11:50 - 12:05 Compton Scattering of Picosecond Electron and
CO₂ Beams, Tetsuro Kumita, Tokyo Metropolitan Univ.

12:05 - 1:15 LUNCH BREAK

The agenda for this meeting:

Reports from User Experiments (continued)

- 1:15 Photocathode R&D and superconducting photoinjector,
Andrew Burril, BNL
- 1:30 Dielectric Wake Field experiments,
Sergey Shchelkunov, Columbia University.
- 1:45 Ultrafast Detection of Relativistic Charged Particles by
Optical Techniques, Thomas Tsang, BNL
- 2:00 LACARA experiment, Jay Hirshfield, Yale and Omega-P.
- 2:15 Electron Beam Pulse Compression Based Physics,
James Rosenzweig, UCLA
- 2:30 VISA Experiment, James Rosenzweig, UCLA
- 2:45 Optical Diffraction-Transition Radiation Interferometry
Diagnostics, Ralph Fiorito, Univ. of Maryland

The agenda for this meeting: New User Proposals

3:15 - 3:30 * Coffee Break *

3:30 - 4:00 “A Bunch-Length Diagnostic Using Wake Field Radiation”, T. C. Marshall, Columbia University

4:15 - 4:45 “Laser Wakefield Acceleration Driven by a CO₂ Laser (STELLA-LW)” Wayne Kimura, STI Optronics

5:00 - 5:30 “Multi-bunch Plasma Wakefield Acceleration at ATF”
T. Katsouleas, University of Southern California,

5:45 - 6:15 “A Proposal to Study the Feasibility of a Novel Vacuum Laser Acceleration Experiment at the BNL – ATF”,
David Cline, UCLA

7:00 DINNER - Berkner Hall,
courtesy of Brookhaven Science Associates

The agenda for this meeting: New User Proposals (continued)

Friday, January 9th

**8:00 – Continental Breakfast, Physics Lounge,
Courtesy of Brookhaven Science Associates**

8:30 - 9:00 “Applications of coherent surface phonon polaritons in thin SiC films to sub-wavelength lithography and compact particle accelerators.” Gennady Shvets, IIT

9:15 - 9:45 "Non-invasive temporal bunch profile measurement" by the Smith-Purcell interaction. J.H. Brownell, Dartmouth College, and H. Kirk, Brookhaven National Lab

Thank you all for coming to this meeting.
I hope you will enjoy the program.

The image shows the cover of a workshop program. On the left is a vertical photograph of a lighthouse tower against a bright orange and yellow sunset sky. The right side of the cover has a grey background with white text. The text reads: "For your information:" followed by the title "The 11th Advanced Accelerator Concepts Workshop 2004" in a large, italicized serif font. Below the title, it says "Stony Brook, NY June 20-26" and "Organized by Stony Brook University and the Brookhaven National Laboratory Accelerator Test Facility".

For your information:

*The 11th Advanced
Accelerator Concepts
Workshop 2004*

Stony Brook, NY June 20-26

Organized by Stony Brook University and
the Brookhaven National Laboratory
Accelerator Test Facility