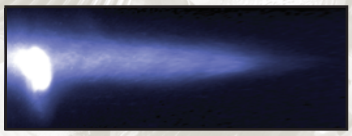
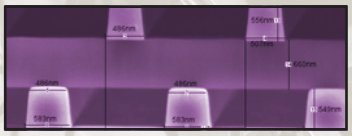
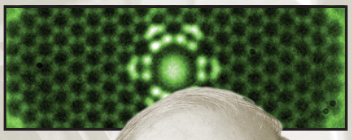
Symposium in Memory of Robert H. Siemann
and Workshop on Novel Concepts for Linear Accelerators and Colliders

July 7th-10th, 2009

SLAC National Accelerator Laboratory



Symposium:
A one-day Symposium will be held in memory of the life of Robert H. Siemann and his many contributions to accelerator physics. Speakers from many chapters of Bob's life will share their insights on his scientific and personal legacy.

Workshop:
Electron-positron linear accelerators are used in many accelerator facilities as radiation sources, injectors, or colliders. Over the last few decades the advanced accelerator R&D programs have developed many novel approaches. These include new methods of acceleration such as rf source and beam-driven microwave high gradient acceleration and laser and beam-driven dielectric and plasma acceleration. Other potentially evolutionary techniques include high brightness particle sources, novel phase space damping and exchange techniques and new focusing concepts.

These new developments have many possible applications in high energy physics as well as other fields that rely on accelerator science and technology. A TeV-scale linear collider has long been recommended as a next major facility for High Energy Physics and the present design is focused on conventional superconducting technology. If these novel concepts can be successfully applied to a linear collider design, they could provide greater performance and/or energy reach as well as more cost-effective approaches. Given the enormous progress in advanced accelerator R&D, it is now possible to sketch self-consistent designs based on these approaches which can be used to guide future R&D towards a future multi-TeV linear collider. This workshop will focus on understanding the implications of the different concepts and technologies with a goal of developing self-consistent accelerator parameters and specifying the R&D programs needed for further progress.

Working Groups:

Microwave Structure-based Linacs

Dielectric Structure-based Linacs (laser and wakefield)

Plasma-based Linacs (laser and wakefield)

Injector and Beam Manipulation Concepts (low emittance e+ and e- sources, emittance exchange, reduction and preservation, ...)

Collimation & Focusing Concepts (crystal and nonlinear collimation, plasma focusing, beam neutralization, stabilization, ...)

Cost Optimization and Future R&D Priorities

Robert H. Siemann

Symposium Organizing Committee:
Martin Blume, BNL
Robert L. Byer, Stanford
Alex Chao, SLAC
Eric R. Colby, SLAC, (Chair)
Mark J. Hogan, SLAC
Gerald P. Jackson, Hbar Technologies
Chan Joshi, UCLA
Maury Tigner, Cornell

Workshop Organizing Committee:
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Leonid Rivkin, PSI
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Vladimir Shiltsev, FNAL
Toshi Tajima, JAERI
Sami Tantawi, SLAC
Maury Tigner, Cornell
Kaoru Yokoya, KEK

Local Organizing Committee:
Naomi Nagahashi, SLAC
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