

Topical Course On

Frontiers of Particle Beams
Intensity Limitations

Hilton Head Island, South Carolina
November 7-14, 1990

This is the fourth in the international series of courses on specialized or advanced topics on particle accelerators. The School is organized jointly by the CERN Accelerator School and the US Particle Accelerator School, is hosted by CEBAF, and receives support from the U.S. Department of Energy and the National Science Foundation.

Program

Guided Tour of the Physics
of Intensity Limitations
Coherent Beam Instabilities
Observation and Correction of Coherent
Instabilities in Circular Machines
Low Energy Aspects of Circular Machines
Low Energy Beams in Linear Structures
High Energy Beams in Linear Structures
Coherent Effects in Linear Structures

Impedance Measurement
Wakefields and Impedances
Engineering Limitations-Protons
Engineering Limitations-Electrons
The Beam-Beam Interaction-Protons
The Beam-Beam Interaction-Electrons
The Coherent Beam-Beam Interaction
Beam-Beam Interaction in Linear
Colliders

Seminars

Intra-beam Scattering
Beam Loading in RF Cavities
Optimization of Injector Chain
Hadron Colliders: Luminosity Limitations

Ions and Neutralization
Continuous Electron Beams
Linear Colliders
B-Factories

The Course will be accessible to graduate students, post-doctoral researchers and scientists interested in entering accelerator physics as well as experienced workers in the field. Some acquaintance with the theory and technology of particle accelerators and standard graduate backgrounds in applied mathematics and electromagnetism will be desirable. Previous schools in general accelerator physics organized by CAS and the USPAS would provide suitable preparation.

Administration: P. Bryant, Head of CERN Accelerator School; M. Month, Director of the US Particle Accelerator School; C. Leemann, Associate Director of CEBAF; Program Committee: J. Bisognano, A. Chao, J.-P. Delahaye, J. Gareyte, I. Hofmann, S. Holmes, K. Hubner, H. Mais, G. Rees, R. Ruth, J. Seeman, R. Shafer, R. Siemann, W.T. Weng, H. Wiedemann, B. Zotter

Registration fee: \$300

Limited financial assistance is available from the USPAS
Requests should include biography, references, and accomplishments

Send applications to:

US Particle Accelerator School
Fermilab/MS 125
P.O. Box 500
Batavia, IL 60510 USA

or

Suzanne von Wartburg
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LEP Division
CH-1211 Geneva 23 Switzerland

Space may be limited; decisions on applications will begin **August 1, 1990**