CENTER FOR BEAM PHYSICS SEMINAR

"Experimental Studies of High-Gradient Accelerator Structures at the W-band"

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Friday, March 16, 2001, 10:30 AM
Bldg. 71 Conference Room, LBNL

Summary:
Operation of accelerators at ever-higher gradients yields breakdown and trapping limits. Frequency scaling of these limits dictate operation at increasingly higher frequencies. This motivation lead to the work I will be presenting: the design and experimental results of high-gradient W-band accelerator structures. These experiments were conducted at SLAC utilizing the NLCTA (a 11.424 GHz machine) as a current source to resonantly excite accelerator structures at 91.392 GHz. Several W-band RF components were necessary for these studies including RF windows, high-power phase shifters, and the accelerator structure itself.

Biographical data and research interests:
Marc Hill obtained his BS (Physics) in 1994 at the University of Illinois, and his Ph.D. (Physics) in 2000 at Harvard University for work done at SLAC. He is now working at a fiber-optic start-up company in San Jose called Big Bear Networks.