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PEP-II Asymmetric B Factory: Design Update and R&D Results*

M. S. ZISMAN, Lawrence Berkeley Laboratory, J.M. DORFAN, R. A. BELL, Stanford Linear Accelerator Center, and W. A. BARLETTA, Lawrence Livermore National Laboratory—An Asymmetric B Factory, PEP-II, was jointly proposed by SLAC, LBL and LLNL in January 1991. The project involves a cost-effective upgrade of the single-ring PEP accelerator to a two-ring 9 GeV × 3.1 GeV collider with a design luminosity of $3 \times 10^{33} cm^{-2} s^{-1}$. Work has continued in two main areas: optimization of the proposed design and R&D to validate the design choices. During the past year the R&D has focused mainly on the areas of vacuum, RF, and bunch-by-bunch feedback system implementation, with a strong emphasis on pre-production prototypes. It is anticipated that, by the end of 1993, prototypes will exist for a complete high-energy ring arc cell (vacuum system, magnets and supports), a full-power RF station (500-kW, 476-MHz klystron, window and cavity) and PEP-II longitudinal and transverse feedback systems running on the ALS machine at LBL. The PEP-II project is ready to begin construction as soon as funds become available.

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Principal Author: Michael S. Zisman
LBL
MS 71-H
Berkeley, CA 94720
Phone: (510) 486-5765
FAX: (510) 486-7981
E-mail: ZISMAN at LBL

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