

# Lawrence Berkeley National Laboratory

## Recent Work

### Title

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

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<https://escholarship.org/uc/item/1bk5f007>

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### Publication Date

1992-02-01

The PEP-II Asymmetric B Factory: Design Update and R&D Results\*, M.S. ZISMAN, Lawrence Berkeley Laboratory, R. BELL, J. DORFAN, A. HUTTON, Stanford Linear Accelerator Center, and W. BARLETTA, Lawrence Livermore National Laboratory, for the B Factory Design Group—PEP-II, a 9 GeV  $\times$  3.1 GeV  $e^+e^-$  collider with a design luminosity of  $3 \times 10^{33}$ , has been proposed by SLAC, LBL, and LLNL. In the past year, our efforts have continued towards an optimized design. Changes have been made to the IR and injection areas, as well as to some aspects of the low-energy ring. Extensive background studies have been carried out and beam-beam simulations performed. An aggressive R&D program is under way to validate our design choices, including fabrication of a prototype RF cavity, a klystron and feedback system components, theoretical evaluation of the RF controls to deal with heavy beam loading, photodesorption tests, and studies of chamber fabrication techniques. A tunnel mock-up has been built, including details of our chosen support and alignment solutions. The PEP-II design changes will be described and the results of the R&D program summarized.

- \* Supported by US Dept. of Energy, Office of High-Energy Physics, under contracts DE-AC03-76SF00515, DE-AC03-76SF00098, DE-AC03-81ER40050, W-7405-Eng-48, and DE-AS03-76ER70285.

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Prefer oral presentation; poster presentation is acceptable.