

The Beam-Stay-Clear Definition of the PEP-II *B* Factory*, M. SULLIVAN, S. ECKLUND, J. SEEMAN, U. WIENANDS, SLAC, M. ZISMAN, LBNL, for the PEP-II Design Team - We describe the definition of the Beam-Stay-Clear (BSC) for the PEP-II project, a collaboration of SLAC, LBNL, and LLNL. We devote special attention to the region near the collision point where both beams, the low-energy beam and the high-energy beam, have large β function values. The BSC of each beam is defined so as to maximize the flexibility of the accelerator design while at the same time satisfying the mechanical constraints imposed by getting the beams separated after collision and by keeping the beams inside the good field region of the final focusing magnets. The beam separation scheme, which plays an important role in the BSC definition, is also described. The flexibility of the design is explored by studying various parameter values for luminosity, tune shift, β_y^* and vertical-to-horizontal beam aspect ratio and verifying that the beam envelopes generated by these changes remain inside the defined BSC.

* Work supported by the U.S. Department of Energy, under contract numbers DE-AC03-76SF00515, DE-AC03-76SF00098, and W-7405-ENG-48.