

**Interaction Region Design at the PEP-II B Factory \***

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Design Team - We describe the interaction region (IR)  
for the PEP-II project, a collaboration of SLAC, LBNL,  
and LLNL. The near IR region inboard of 3 meters is  
designed to focus the 3.1 GeV low-energy beam and  
bring it into head-on collision with the 9 GeV high-  
energy beam. We describe the overall design  
parameters of this area and the integration with the  
detector geometry. Permanent magnet (PM) dipoles  
and quadrupoles inside the detector's 1.5 T solenoidal  
magnetic field are described. The beam separation is  
accomplished with a dipole field from PM blocks in a  
stepped conical geometry to accommodate detector  
solid angle coverage and by a hybrid PM quadrupole -  
dipole. Masking synchrotron radiation from the  
detector and absorbing the power (70 kW) is built into  
the vacuum chamber design.

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