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Abstract for an Invited Paper
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W.K.H. Panofsky Prize in Experimental Particle Physics: Establishing and testing the Standard Model of flavor physics .

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The discovery of an unexpectedly long B meson lifetime made it feasible to measure the CP -violating asymmetry in B meson decay. The measurement of these asymmetries were made by the $BABAR$ Collaboration at SLAC and the Belle Collaboration at KEK, using the PEP-II and KEKB asymmetric e^+e^- colliders. The asymmetry in the decay rates of B^0 and \bar{B}^0 mesons to CP eigenstate final states, due to a non-zero phase in the three quark generation CKM matrix, can be directly interpreted using the Unitarity Triangle construction in terms of the fundamental parameters of the matrix, with very little uncertainty due to hadronic effects. The measurement of these asymmetries in a wide variety of final states, which show complete consistency with the three-generation Standard Model, will be discussed. The three following presentations will discuss in further detail the PEP-II and KEKB colliders, the $BABAR$ and Belle detectors, and aspects of the results other than those on CP -violation.

¹This is the first of four Panofsky Prize presentation abstracts. The order of presentation should be Hitlin, Dorfan, Takasaki, Olsen