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BaBar Measurement of the branching fraction, photon energy spectrum, and direct CP asymmetry in inclusive $b \rightarrow s\gamma$ decays ERCKAN OZCAN, Stanford Linear Accelerator Center, BABAR COLLABORATION — We present measurements of the radiative penguin quark decay $b \rightarrow s\gamma$. Measurements include the branching fraction, photon spectrum, and CP asymmetry of an inclusive sample of B mesons decaying to high energy photons. The branching fraction and CP asymmetry are highly sensitive to new physics at the electroweak scale, and the photon spectral shape allows for precision studies of the strong interactions of the b quark within the B meson bound state. The data samples studied comprise 89 million $\Upsilon(4S) \rightarrow B\bar{B}$ decays collected with the BaBar detector at the PEP-II e^+e^- storage ring.

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