

Smearing of Monte Carlo simulated photon energies in the Babar Electromagnetic Calorimeter

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“The photon energy resolution of the Electromagnetic Calorimeter of the BaBar detector at SLAC has been studied. The response of the calorimeter was investigated using single photons above 1 GeV from the reaction $e^+e^- \rightarrow \mu^+\mu^-\gamma$. Initially a discrepancy was observed between Data and Monte Carlo simulated events. A smearing technique has been developed to correct this discrepancy, based on the Student's t distribution. This smearing is validated using an analysis of $B \rightarrow K^*\gamma$, where a significant improvement in the agreement between Data and MC energy distributions is observed. This technique has been implemented as a standard correction for BaBar analyses. “

Talk, Poster, or Talk & Poster

Talk

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