Search for invisible decays of a dark photon produced in $e^+e^-$ collisions at BABAR

The BABAR Collaboration

The following includes supplementary material for the Electronic Physics Auxiliary Publication Service.

![Graphs](image)

FIG. 1: Distributions of the missing mass squared $M^2_X$ in the “lowM” data samples collected near (a,b) $\Upsilon(2S)$, (c,d) $\Upsilon(3S)$, and (e,f) $\Upsilon(4S)$ resonances. Data are selected with (a,c,e) $R_L$ and (b,d,f) $R_T$ selections. The solid blue line represents the background-only fit with $\varepsilon^\pm \equiv 0$. Normalized fit residuals are shown above each plot.
FIG. 2: Distributions of the missing mass squared $M_X^2$ in the “highM” data samples collected near (a) $\Upsilon(2S)$ and (b) $\Upsilon(3S)$ resonances. The solid blue line represents the background-only fit with $\varepsilon^2 \equiv 0$. Normalized fit residuals are shown above each plot.