

Search for invisible or lepton-flavor-violating Upsilon decays in BaBar

Saturday, July 18, 2009 9:30 AM (15 minutes)

We present a search for decay of the $Y(1S)$ meson into undetectable final states, using a sample of $Y(3S)$ mesons collected at the PEP-II/BaBar B-factory. We tag the decay of the $Y(3S)$ into the $Y(1S)$ through a pair of charged pions, and measure the rate at which the $Y(1S)$ decays into particles which do not interact with the BaBar detector. Furthermore, we present a search for charged lepton-flavor violating decays $Upsilon \rightarrow e^+ \tau^-$ and $Upsilon \rightarrow \mu^+ \tau^-$ which probes BSM contributions at the TeV mass scales.

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Session Classification: III. Higgs and New Physics

Track Classification: Higgs and New Physics