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A search for the decays $B^0 \to l^+\tau^-$ ($l = e, \mu$) using hadronic tag reconstruction MIIKA KLEMETTI, McGill University, BABAR COLLABORATION — We present a search for the FCNC (and lepton-flavor-violating) decay modes $B^0 \to \mu^+\tau^-$ and $B^0 \to e^+\tau^-$ with data collected by the BaBar detector at the PEP-II storage ring at SLAC. This search utilizes a technique in which we fully reconstruct the accompanying $\bar{B}^0$ in $\Upsilon(4S) \to B^0\bar{B}^0$ events, and look for a monoenergetic lepton in the B^0 frame. The τ^- is identified by the decay modes $\tau^- \to e^-\nu\bar{\nu}$, $\tau^- \to \mu^-\nu\bar{\nu}$, $\tau^- \to \pi^-\nu$, $\tau^- \to \pi^-\pi^0\nu$, $\tau^- \to \pi^-\pi^0\pi^0\nu$ and $\tau^- \to \pi^-\pi^-\pi^+\nu$. The signal candidates are extracted using a "cut and count" method taking advantage of the kinematic variables in the τ^- rest frame. The data sample consist of approximately 384 million $B\bar{B}$ pairs. The search of rare leptonic decays $B^+ \to e^+\nu_e$ and $B^+ \to \mu^+\nu_\mu$, utilizing the same reconstruction technique, is also discussed and the analysis results are presented.

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