Abstract Submitted
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Searching for the Decay of a B meson into a Proton and a Lepton[1]

CASSANDRA BILLINGS, MATTHEW BELLIS, Siena College — The BaBar experiment, located at the SLAC National Accelerator Laboratory, was motivated by the investigation of charge-parity violation and the asymmetry between matter and antimatter in the universe. We are searching for B mesons decaying to a baryon and a lepton, using Monte Carlo (MC) simulated data and MC background studies. We are specifically looking at five decay processes, p, pe-, p, ne-, n. These decays violate baryon number and would be a sign of new physics beyond the standard model. The data has been skimmed and transferred to Siena College where we are optimizing our selection criteria making use of basic cuts (PID) and machine learning algorithms. The current status of this project will be presented.

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Cassandra Billings
Siena College

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