SEARCH FOR THE RADIATIVE LEPTONIC DECAY $B^+ \to \ell^+ \nu_\ell \gamma$ AT THE BABAR DETECTOR

D. Lindemann*, S. Robertson

McGill University

We present the search for the radiative leptonic decay modes $B^+ \to e^+ \nu_e \gamma$ and $B^+ \to \mu^+ \nu_\mu \gamma$ using data collected by the BaBar detector at SLAC. This analysis uses a novel technique in which the accompanying B meson is exclusively reconstructed using hadronic decay modes, providing cleaner kinematic information on the signal's missing energy and high momentum photon and lepton. With approximately 465 million B meson pairs produced by this B-factory (corresponding to an integrated luminosity of ~ 423 fb^{-1}), the predicted Standard Model branching fraction of these rare decay modes may finally be within reach to produce a measurable signal.

* *E-mail:* danaml@physics.mcgill.ca