

Abstract Submitted  
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**The Search for a Non-Superaligned Branch in the  $\beta$  decay of  $^{38m}\text{K}$** <sup>1</sup> KYLE LEACH, University of Guelph, D. BANDYOPADHYAY, P. FINLAY, P.E. GARRETT, G.F. GRINYER, A.A. PHILLIPS, M.A. SCHUMAKER, C.E. SVENSSON, J. WONG, University of Guelph, Canada, G.C. BALL, E. BASSIACHVILLI, S. ETTENAUER, G. HACKMAN, A.C. MORTON, S. MYTHILI, O. NEWMAN, C.J. PEARSON, M.R. PEARSON, H. SAVAJOLS, TRIUMF, Vancouver, Canada, J.R. LESLIE, Queens University, Canada, D. MELCONIAN, University of Washington, Seattle, R.A.E. AUSTIN, St. Mary's University, Canada, C. BARTON, University of York, United Kingdom — The study presented is part of an experimental program exploring the properties of superallowed Fermi  $\beta$  decays conducted at the Isotope Separator and Accelerator (ISAC) facility at TRIUMF in Vancouver, B.C. Canada. Using the  $8\pi$   $\gamma$ -ray spectrometer and the Scintillating Electron Positron Tagging Array (SCEPTAR), it was possible to set a new upper limit on an unobserved non-analogue branch in the decay of  $^{38m}\text{K}$ . This branch is expected to be extremely weak, and the removal of contaminant isobaric decays and background radiation in the spectra was thus exceedingly important during the analysis. Our work has reduced the previous upper limit by approximately a factor of two and is approaching the theoretically predicted branching ratio.

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Kyle Leach  
University of Guelph

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