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**Systematic study of cosmogenic activation with low background Ge spectroscopy at the Kimballton Underground Research Facility**  
PADRAIC FINNERTY, University of North Carolina at Chapel Hill, HENNING BACK, North Carolina State University, REYCO HENNING, University of North Carolina at Chapel Hill — A systematic study of the activation rate of materials due to cosmic rays with the aid of low background Ge spectroscopy is proposed. The next generation of underground physics experiments will require unprecedented control and characterization of the intrinsic radioactive isotopes in their detection mediums and construction materials. One such source is the activation of materials via cosmic ray interactions in the upper atmosphere. We propose to activate materials at high altitude,  $\sim 14,000$  feet above sea level, by utilizing storage space made available to us by the University of Denver's Meyer-Womble Observatory. Low background Ge spectroscopy will then be performed at the Kimballton Underground Research Facility (KURF), located near the campus of Virginia Tech, to determine the cosmogenic isotope production rates.

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