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A measurement of the K-shell decays in the CoGeNT public dataset LAURA APICELLO, MATTHEW BELLIS, Siena College, JUAN COLLAR, NICOLE FIELDS, University of Chicago — From December 2009 to March 2011 the CoGeNT experiment recorded interactions in their detector with the goal of either detecting dark matter particles or setting stringent limits on the mass and cross-section of these particles, assuming various WIMP (Weakling Interacting Massive Particles) models. The collaboration has made public this datase which contains the energies and time stamp of these interactions. The sensitivity of any dark matter searches will be limited by both statistics and an understanding of the backgrounds coming form naturally occuring radioavtive processes. The energy range where the dark matter should manifest shows a significant background from L-shell processes. This analysis extracts the number of K-shell decays and uses this information to extrapolate down to the lower energy L-shell decays. These measurements will be used in other analyses to gain the greatest sensitivity to possible WIMP interactions in the CoGeNT detector.

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