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Coincidence Measurements of the Auger Cascade Process in Ag¹

R. SUNDARAMOORTHY, The University of Texas at Arlington, A. H. WEISS, The University of Texas at Arlington, S.L. HULBERT, NSLS Brookhaven National Lab, D. ARENA, NSLS Brookhaven National Lab, R. A. BARTYNSKI, Rutgers University — Auger electron spectroscopy provides a probe of many-electron phenomena and the connection between screening, correlation of the final-state holes, and the spectral line shape. Intra-shell and inter-shell hole-hole interactions in the intermediate and final states of the Auger cascade processes shift the measured electron emission spectra of Ag. Here we study the correlation effects of the final state holes created in LMM Auger Cascade process. The final *MM* hole of the *LMM* transition can serve as the initial state for an *MVV* transition, the contribution of which can be separated out from the remaining contributions occurring from other cascades such as *LMV* and the direct transition using Auger-Auger coincidence spectroscopy. Here we present results for the x-ray excited Auger *MVV* spectra of Ag measured with synchrotron radiation excitation where we study the difference between the *MVV* – 2p_{3/2} Auger photoelectron coincidence spectra and the *LMM*-*MVV* Auger-Auger coincidence spectra. The observed differences throw light on the correlation effects in many core-hole excited states.

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