A continued fraction approach to calculating Auger electron spectra ANAMITRA MUKHERJEE, MONA BERCIU, University of British Columbia — We present a novel real space approach to calculating few body lattice Green's functions for the Anderson impurity model. Using this we compute the two hole impurity Green's function for the impurity coupling to a one dimensional bath. We show that the geometry of the impurity-bath coupling can introduce new features in the impurity spectral function that survive even when the impurity-bath hybridization is weak. We compare these results with the spectral function for the corresponding periodic Anderson model and identify the parameter regime where the impurity spectral function is a faithful representation of the two hole (Auger) spectra of the periodic system. We comment on the generalization of the method to calculating three hole spectral functions and their application to Auger electron spectra in partially filled band.

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