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Characterizing endpoints of generalized inverse limits

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Abstract: Consider the interval $[0,1]$ and let $F : [0,1] \to 2^{[0,1]}$ be a set-valued function. Our goal is to better understand the topological structure of the generalized inverse limit associated with F. One way to study and compare inverse limits (both the classical and set-valued varieties), is to investigate the collection of endpoints. In joint work with James Kelly, we investigated the collection of endpoints for a family of set-valued functions obtained by attaching an arc to the critical point of a symmetric tent map. We then observed how the collection of endpoints varies as the slope of the symmetric tent map is changed. In this talk, we will discuss the results of this investigation and provide insights into our attempt to characterize the collection of endpoints for inverse limits of set-valued functions $F : [0,1] \to 2^{[0,1]}$ satisfying the property that the inverse of the graph is the union of maps on $[0,1]$.