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Joseph Jackson*, jjackso1@swarthmore.edu, and **Mike Cinkoske** and **Claire Plunkett**. *On the Speed of an Excited Asymmetric Random Walk*.

An excited random walk is a non-Markovian extension of the simple random walk, in which the walk's behavior at time n is impacted by the path it has taken up to time n . The properties of an excited random walk are more difficult to investigate than those of a simple random walk. For example, the limiting speed of an excited random walk is either zero or unknown depending on its initial conditions. While its limiting speed is unknown in most cases, the qualitative behavior of an excited random walk is largely determined by a parameter δ which can be computed explicitly. Despite this, it is known that the limiting speed cannot be written as a function of δ . We offer a new proof of this fact, and use techniques from this proof to further investigate the relationship between δ and limiting speed. We also generalize the standard excited random walk by introducing a "bias" to the right, and call this generalization an excited asymmetric random walk. Under certain initial conditions we are able to compute an explicit formula for the limiting speed of an excited asymmetric random walk. (Received September 24, 2017)