Steve Kirkland* (stephen.kirkland@umanitoba.ca). On Random Walk Centrality.

We consider a notion of random walk centrality for undirected graphs that has been proposed in the literature on complex networks. This notion is shown to be naturally related to an accessibility index for the states of a discrete-time, ergodic, homogenous Markov chain on a finite state space. We provide several characterisations of this accessibility index, investigate the behaviour of the accessibility index under perturbation of the transition matrix, and describe some examples that exhibit counter-intuitive behaviour. (Received August 23, 2016)