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Open quantum walk based bias removal algorithms. Preliminary report.

We consider structured maps to build quantum stochastic flows that capture the evolution of discrete time and discrete state Markov chains. These constructions are interpreted as open quantum walks on a connected graph. Within this framework we discuss algorithms that remove bias, if there is any, in finite outcome probabilistic experiments. We comment on the fixed points of the flows, complexity of the algorithms, and possible applications. (Received September 12, 2015)