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ϵ-uniform mixing in discrete quantum walks

If a discrete quantum walk starts with a superposition of outgoing arcs of some vertex, can it get arbitrarily close to a state whose amplitudes have the same absolute value over all the arcs? We investigate this phenomenon in arc-reversal Grover walks on distance regular graphs. In particular, if this happens on a non-bipartite distance regular graph, and the target state respects the neighborhoods, then the Bose-Mesner algebra contains a real Hadamard matrix. This gives rise to 4 infinite families of strongly regular graphs that admit ϵ-uniform mixing.