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Purely singular continuous spectrum for limit-periodic CMV operators with applications to quantum walks.

We show that a generic element of a space of limit-periodic CMV operators has zero-measure Cantor spectrum. We also prove a Craig–Simon type theorem for the density of states measure associated with a stochastic family of CMV matrices and use our construction from the first part to prove that the Craig–Simon result is optimal in general. We discuss applications of these results to a quantum walk model where the coins are arranged according to a limit-periodic sequence. (Received February 04, 2018)