Cantorspectrum for one-dimensional quasicrystals

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The spectrum of one-dimensional discrete Schrödinger operators associated to strictly ergodic dynamical systems is shown to coincide with the set of zeros of the Lyapunov exponent if and only if the Lyapunov exponent exists uniformly. This is used to obtain Cantor spectrum of zero Lebesgue measure for a large class of aperiodic subshifts including all aperiodic subshifts arising from primitive substitutions.