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Title: Spectral properties of Schrödinger operators with quasi-periodic
potential and Aubry-Mather theory.

Abstract: Schrödinger operators with quasi-periodic potentials were intensively studied in the last few decades. Their spectral properties depend on the value of the coefficient in front of the potential, so called. coupling constant. For small values of the coupling constant the spectrum is absolutely continuous, while for large coupling constants the spectrum is pure point. Natural families of Schrödinger operators with quasi-periodic potentials appear in the context of the Aubry-Mather theory. In this setting there are no coupling constants. Instead operators depend on the nonlinearity parameter for related area-preserving maps. We shall discuss the transition from the absolutely continuous to the pure point spectrum for such families of Schrödinger operators.

The talk is based on a joint work with Artur Avila and Martin Leguil.