

ANALYTIC QUASI-PERIODIC SCHRÖDINGER OPERATORS
AND RATIONAL FREQUENCY APPROXIMANTS

C. Marx

Department of Mathematics, University of California at Irvine

Consider a quasi-periodic Schrödinger operator with analytic potential and irrational frequency. We show that up to sets of zero Lebesgue measure, the absolutely continuous spectrum can be recovered asymptotically from the intersections over the phase of the spectra of the periodic operators associated with the continued fraction expansion of the frequency. This proves a conjecture of Yoram Last in the analytic case. Similarly, from the asymptotics of the unions over the phase of such spectra, one recovers the spectrum of the quasi-periodic operator.