Abstract

This talk is based on a joint work with Hongyi Cao (PKU) and Zhifei Zhang (PKU). We establish quantitative Green's function estimates for some higher dimensional lattice quasi-periodic Schrodinger operators. The resonances in the estimates can be described via a pair of symmetric zeros of certain functions. As applications, we prove both the arithmetic version of Anderson localization and the finite volume version of (1/2-)-Holder continuity of the integrated density of states. This gives an affirmative answer to a problem of Bourgain (2000).