Periodic Approximations to Aperiodic Hamiltonian

Siegfried Beckus¹, Jean Bellissard*²,³, and Giuseppe De Nittis⁴

¹Israel Institute of Technology – Israel  
²Georgia Institute of Technology – United States  
³Münster Universität – Germany  
⁴Pontificia Universidad Catolica de Chile – Chile

Abstract

This talk will provide a glimpse of the content of a series of articles already written or under writing, concerning the calculation of the spectrum of a self-adjoint operator by approximating the operator with a sequence or a family of self-adjoints operators. A special emphasis will be put on the case of Hamiltonians describing the quantum motion of a particle in an aperiodic medium, by approximating the medium by periodic ones as the periods goes to infinity. This is joint work with S. Beckus and G. De Nittis.