

Titel: Spectra of non-selfadjoint operators over dynamical systems

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Abstract:

We consider equivariant families of operators on countable discrete groups over arbitrary dynamical systems. We introduce the concept of a pseudoergodic element of a dynamical system. We then show that all operators associated to pseudoergodic elements have the same spectrum and that this spectrum agrees with their essential spectrum. As a consequence we obtain that the spectrum is constant and agrees with the essential spectrum for all elements in the dynamical system if minimality holds. This generalizes the well-known constancy of spectra for selfadjoint quasiperiodic models or Hamiltonians for quasicrystals.

Joint work with Siegfried Beckus (Jena), Daniel Lenz (Jena), Marko Lindner (Hamburg-Harburg).