

Perturbation theory for Schrödinger-type Hamiltonians

Mustapha Mokhtar-Kharroubi

Université de Franche-Comté
Laboratoire de Mathématiques de Besançon

Abstract

We present a new functional analytic approach of Schrödinger Hamiltonians relying on L^1 tools (in particular on local weak-compactness arguments) which extends the Kato class potentials. This formalism has a much more larger scope and applies for instance to generators of convolution semigroups covering thus generators of α -stable semigroups, relativistic Schrödinger semigroups etc. We show also how to derive form-bounds for “multi-particles” Schrödinger-type Hamiltonians.