Public Abstract
First Name:Anna
Middle Name:
Last Name:Skripka
Adviser's First Name:Konstantin
Adviser's Last Name:Makarov
Co-Adviser's First Name:
Co-Adviser's Last Name:
Graduation Term:WS 2007
Department:Mathematics
Degree:PhD
Title:Trace Formulae in Finite von Neumann Algebras

The dissertation is devoted to some aspects of spectral perturbation
theory in the context of finite von Neumann algebras. The central
results are analogs of the Birman-Schwinger principle and the
Birman-Krein formula for the Xi-index, a spectral parameter
independent counterpart of Krein's spectral shift function.

The proofs of the main results are based on diverse properties of the
operator logarithm and argument averaged with respect to a normal
tracial state that are derived in this work. In addition, formula
representations for the Xi-index and the Xi-function are
obtained and the concept of the Xi-index is related to that of the
spectrum distribution function for some random operators.