

Dr. Peter Herbrich

Mañé's critical value and periodic magnetic Schrödinger operators

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Institut für Mathematik
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Rudower Chaussee 25
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Vortrag im Rahmen des Forschungsseminars "Geometrische Analysis und Spektraltheorie"

The talk will deal with lifted magnetic fields on covers of closed manifolds. In particular, the spectra of corresponding periodic magnetic Schrödinger operators can be related to Mañé's critical energy values of the corresponding classical Hamiltonian systems. Namely, if the covering transformation group is amenable, then the bottom of the spectrum is bounded from above by Mañé's critical value. In the special case of abelian covers, the spectral analysis reduces to the study of shifted magnetic potentials on the compact quotient which parallels the behaviour of Mañé's critical value of the corresponding classical systems. The talk will finish with examples of magnetic fields on homogeneous spaces, which facilitate comparisons between the classical and the quantum data.

Kontakt:

Humboldt-Universität zu Berlin . Institut für Mathematik
SFB 647 . Unter den Linden 6 . 10099 Berlin
Tel. +49 30 2093 1804 . Fax. +49 30 2093 2727
sfb647@math.hu-berlin.de