



Universidade Federal de Santa Catarina
Centro de Ciências Físicas e Matemáticas
Pós-Graduação em Matemática



Seminars on Differential Equations (2018.1)

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INVARIANTS OF THE TRACE MAP AND UNIFORM SPECTRAL PROPERTIES FOR
DISCRETE STURMIAN DIRAC OPERATORS

Abstract

We establish invariants for the trace map associated to a family of 1D discrete Dirac operators with Sturmian potentials. Using these invariants we prove that the operators have purely singular continuous spectrum of zero Lebesgue measure, uniformly on the mass and parameters that define the potentials. For rotation numbers of bounded density we prove that these Dirac operators have purely continuous spectrum, as to the Schrödinger case, for some $\alpha \in (0, 1)$. To the Sturmian Schrödinger and Dirac models we establish a comparison between invariants of the trace maps, which allows to compare the numbers α and lower bounds on transport exponents.

Florianópolis. June 14th, 2018. 14:00 - 15:00

Room 202 - Maths Department

Check out our website: <http://mtm.ufsc.br/~bortolan/seminario/index1.html>