Mathematisches
Forschungsinstitut
Oberwolfach

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Oberwolfach Seminar

Anisotropic Spaces and their Applications to Hyperbolic and Parabolic Systems

Organizers: Viviane Baladi, Paris
Mark Demers, Fairfield
Giovanni Forni, College Park
Sébastien Gouëzel, Nantes
Date (ID): 09 – 15 June 2019 (1924a)
Deadline: 31 March 2019

The general topic of this Oberwolfach Seminar is how Ruelle resonances, i.e. the spectral data of a dynamical system (which describe its correlation asymptotics), appear and can be studied in various settings: the hyperbolic case (with singularities) of dispersive billiards, the parabolic case of horocycle flows in negative curvature, and the elliptic case (with singularities) of translation flows. The unifying theme is the use of a fairly new tool: anisotropic Banach spaces, on which the eigenvalues of suitable Ruelle transfer operators furnish the Ruelle resonances.

There will be four minicourses, which will all start at a basic level, building up to very recent results.

- Resonances and Sinai billiards (Mark Demers).
- Resonances and averages of horocycle flows (Viviane Baladi).
- Ruelle resonances for pseudo-Anosov systems (Sébastien Gouëzel).
- From cohomological equations to Ruelle resonances (Giovanni Forni).

The seminar takes place at the Mathematisches Forschungsinstitut Oberwolfach. The Institute covers board and lodging. By the support of the Carl Friedrich von Siemens Foundation travel expenses can be reimbursed up to 150 EUR in average per person (against copies of travel receipts). The number of participants is restricted to 25.

Applications including

- full name and address, incl. e-mail address
- short CV and publication list
- present position, university
- name of supervisor of Ph.D. thesis
- a short summary of previous work and interest
- title, ID and date of the intended seminar

should be sent preferably by e-mail (with attachments in pdf format) via **seminars@mfo.de** until 31 March 2019 to:

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