RUHR-UNIVERSITÄT BOCHUM

FAKULTÄT FÜR MATHEMATIK

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Oberseminar Dynamische Systeme

Dynamical construction of barcodes of Hamiltonian homeomorphisms of surfaces

Dienstag, 08. Dezember 2020
16:15 Uhr – per Zoom

Benoit Joly
(Paris)

Abstract:

The notion of barcodes appears to be a useful tool in C^0 symplectic topology and can be seen as a « path » of all spectral invariants. Nevertheless, the construction relies on Floer Homology which needs a C^2 setting. I will present a new construction of barcodes of Hamiltonian homeomorphisms of oriented compact surfaces which relies on Le Calvez's transverse foliation theory. For a homeomorphism of a surface Le Calvez proved that there exists C^0 foliations associated to some « maximal » isotopies. Moreover, in the case of Hamiltonian homeomorphisms, the foliations are « gradient-like ». This property allows us to construct new barcodes without Floer Homology. I will present the dynamical tools and then I will give the ideas to construct theses barcodes.

Guests are very welcome!