

Alberto Abbondandolo, Luca Asselle, Barney Bramham
Gerhard Knieper, Stefan Suhr, Kai Zehmisch

Oberseminar Dynamische Systeme

Big Fiber Theorems and Ideal-Valued Measures in Symplectic Topology

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Yaniv Ganor
(Tel Aviv)

Abstract:

In various areas of mathematics there exist "big fiber theorems", these are theorems of the following type: "For any map in a certain class, there exists a 'big' fiber", where the class of maps and the notion of size changes from case to case.

We will discuss three examples of such theorems, coming from combinatorics, topology and symplectic topology from a unified viewpoint provided by Gromov's notion of ideal-valued measures.

We adapt the latter notion to the realm of symplectic topology, using an enhancement of Varolgunes' relative symplectic cohomology to include cohomology of pairs. This allows us to prove symplectic analogues for the first two theorems, yielding new symplectic rigidity results.

Necessary preliminaries will be explained.

Guests are very welcome!