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Title:

Persistence of laminations and stratifications: some extensions of the Hirsch-Pugh-Shub theory

Abstract:

We will start by explaining some extensions of the celebrated Hirsch-Pugh-Shub theory on persistence of invariant normally hyperbolic laminations. Our extensions regard the non-compact case and/or the endomorphism case.

Secondly we will discuss the persistence of such a family of manifolds when they are not of the same dimensions: this gives rise to the concept of stratifications of laminations. This is basically a space stratified by laminations.

We will provide various applications of a general theorem such as:

- persistence of normally expanded submanifolds with boundary or corners, as stratifications,
- persistence of some product structures in product dynamics,
- persistence of normally axiom A fibrations.