Uniqueness of SRB measures for Endomorphism

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ABSTRACT

Let f be a C^2 Endomorphism (local diffeomorphism), of a closed Riemannian manifold M without zero Lyapunov exponents and with k fixed index ($dim\, E^s = k$). In [4] it was shown that the number of ergodic hyperbolic measures of f with SRB property is less than equal to the maximal cardinality of $k-$eskleton (hyperbolic periodic points without any homoclinic relation[5]). The natural question appears in continuation of this work, regarding to [1], is a condition which implies the uniqueness of measures with SRB property.
In 1994 I.Kan [2] discovers some un-expecting example with intermingled basins which in case of two-cylinder are shown to be robustly transitive but without a unique SRB measure.[3] Defining the notion of "pre-transitivity" for endomorphisms, we see that the existence of a hyperbolic pre- transitive periodic point, can imply the uniqueness of SRB measures which in case, do not appears in Kan-type examples. we see that as a consequence it drives the ergodicity of the system in a conservative setting.

References

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