Inverse SRB measures for endomorphisms on surfaces [1]

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This is part of my PhD work, advised by Pablo D. Carrasco and R. Saghin. We extend D. Burguet's construction of SRB measures [2] for the non-invertible scenario obtaining hyperbolic invariant measures with absolutely continuous disintegrations on stable manifolds for a certain class of endomorphisms on the two-torus. The constructed measures also maximize the folding entropy, and we call them equidistributed inverse SRB measures. We show that for dissipative perturbations of the examples given by M. Andersson, P. Carrasco and R. Saghin in [3] we obtain existence, uniqueness, continuity with respect to the map and the SPR property for the equidistributed inverse SRB measures.

References

[1] V. Janeiro and R. Saghin, "Inverse srb measures for endomorphisms on surfaces," *arXiv preprint arXiv:2512.09624*, 2025.

[2] D. Burguet, "Srb measures for C^∞ surface diffeomorphisms," *Inventiones mathematicae*, vol. 235, no. 3, pp. 1019–1062, 2024.

[3] M. Andersson, P. D. Carrasco, and R. Saghin, "Non-uniformly hyperbolic endomorphisms," *Compositio Mathematica*, vol. 161, pp. 1313 – 1356, 2025.