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Monotonicity of entropy in families of interval maps, transfer operator and holomorphic motions

1. The Ruelle-Thurston transfer operator.

2. An explicit example: disconnected quadratic Julia sets and the limit distribution of eigenvalues.

3. Applications to rational dynamics.

4. Tsujii's and Milnor-Thurston's approaches to monotonicity of entropy in the real quadratic family.

5. A local approach via holomorphic motions: the transfer operator and its spectrum.

6. Main Theorem and some applications.

7. A critically infinite case: do saddle-nodes unfold in a positive direction?

REFERENCES

[1] J. Milnor, W. Thurston, *On iterated maps of the interval. Lecture notes in Mathematics*, 1342. Dynamical Systems, 465-563.

[2] M. Tsujii, *A simple proof for monotonicity of entropy in the quadratic family*, Ergod. Th. & Dynam. Sys. (2000), 20, 925-933.

[3] G. Levin, W. Shen, S. van Strien, *Positive transversality via transfer operators and holomorphic motions with applications to monotonicity of interval maps*, Nonlinearity 33 (2020), no 8, 3970-4012.

[4] G. Levin, W. Shen, S. van Strien, *Transversality in the setting of hyperbolic and parabolic maps*, J. Anal. Math. 141 (2020), no 1, 247-284.