

Transfer operators and anisotropic spaces for Sinai billiards: a selected bibliography

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1. REFERENCE BOOKS AND NOTES

- [CM] is the standard reference for dispersive billiards.
- [De1] is an introductory paper about anisotropic spaces.
- [DKL] is a recent book about transfer operators in hyperbolic dynamics.
- [De2] contains the slides of a recent mini-course on dispersive billiards.

2. RESEARCH PAPERS ON DISPERSIVE BILLIARDS

The proof of exponential mixing for maps using anisotropic spaces is in [DZ].
The proof of exponential mixing for flows is in [BDL].
The measure of maximal entropy for maps is constructed in [BD1]. Polynomial bounds on its rates of mixing are obtained in [DK].
Other equilibrium states for maps are studied in [BD2] for maps, in [Ca] for flows.
The measure of maximal entropy for billiard flows is constructed in [BCD].

REFERENCES

- [BCD] V. Baladi, J. Carrand, and M.F. Demers, *Measure of maximal entropy for finite horizon Sinai billiard flows*, arXiv:2209.00982 (2022).
- [BD1] V. Baladi and M.F. Demers, *On the measure of maximal entropy for finite horizon Sinai billiard maps*, J. Amer. Math. Soc. **33** (2020) 381–449.
- [BD2] V. Baladi and M.F. Demers, *Thermodynamic formalism for dispersing billiards*, J. Mod. Dyn. **18** (2022) 415–493.
- [BDL] V. Baladi, M. Demers, and C. Liverani, *Exponential decay of correlations for finite horizon Sinai billiard flows*, Invent. Math. **211** (2018) 39–177.
- [Ca] J. Carrand, *A family of natural equilibrium measures for Sinai billiard flows*, arXiv: 2208.14444v1 (2022).
- [CM] N.I. Chernov and R. Markarian, *Chaotic Billiards*, Math. Surveys and Monographs **127**, Amer. Math. Soc. (2006).
- [De1] M.F. Demers, *A gentle introduction to anisotropic Banach spaces*, Chaos, Solitons and Fractals **116** (2018) 29–42.
- [De2] M.F. Demers, *Thermodynamic formalism for dispersing billiard maps and flows*, Mini-course, Brin Center, University of Maryland (2023). <http://faculty.fairfield.edu/mdemers/research/2023.06.05.maryland.lecture1.pdf> <http://faculty.fairfield.edu/mdemers/research/2023.06.06.maryland.lecture2.pdf> <http://faculty.fairfield.edu/mdemers/research/2023.06.08.maryland.lecture3.pdf>
- [DKL] M.F. Demers, N. Kiamari and C. Liverani, *Transfer Operators in Hyperbolic Dynamics: An Introduction*, 33o Colóquio Brasileiro de Matemática, IMPA (2021) Link to book.
- [DK] M.F. Demers and A. Korepanov, *Rates of mixing for the measure of maximal entropy of dispersing billiard maps*, arXiv:2204.04684 (2022).
- [DZ] M.F. Demers and H.-K. Zhang, *Spectral analysis of the transfer operator for the Lorentz Gas*, J. Mod. Dyn. **5** (2011) 665–709.