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Information Lattice picture for the Fisher-Information indicators

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1. Introduction

2. Information Lattice

Building on the works in [**Bardarson2022TimeEvolutionSciPostPhys**] The *Information Lattice* as a concept to systematically analyze the information content and entanglement structure of a quantum many-body state was first introduced by Artiaco et. al. in [1], and further developed as a tool for dynamics, charecterisation of loclisation, rate of information scrambling, criticality of the localisation-scrambling transition, and quench dynamics respectively in [1–4]. Here for the sake of completeness, we quote the construction of information lattice and some properties possibily useful to us from the aforementioned works.

3. Insigts from Information Lattice calculations

References

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[3] C. Artiaco, T. Klein Kvorning, D. Aceituno Chávez, L. Herviou, and J. H. Bardarson, "Universal characterization of quantum many-body states through local information", Phys. Rev. Lett. **134**, 190401 (2025) 10.1103/PhysRevLett.134.190401, arXiv:2501.09090 [cond-mat.str-el].

[4] N. P. Bauer, B. Trauzettel, T. Klein Kvorning, J. H. Bardarson, and C. Artiaco, "Local information flow in quantum quench dynamics", Phys. Rev. A **112**, 022221 (2025) 10.1103/PhysRevA.112.022221, arXiv:2502.14572 [quant-ph].

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