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Title: Intrinsic dimension estimation in spin systems.

Abstract: We will start by introducing the recently developed intrinsic dimension estimator for discrete spaces[1], and presenting its limitations to work on Ising spin systems. Then, we will show how to modify the algorithm to overcome these limitations, and give examples of performance on thermal phase transitions. Finally, we will discuss possible relationships with the ID in Ising spin systems and the Shannon entropy of the underlying probability distribution.

[1] Macocco et al. Intrinsic Dimension Estimation for Discrete Metrics, Physical Review Letters. (2023)