



北京理工大学

Invariant Gibbs dynamics for the nonlinear Schrödinger equation on the disc

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摘要: We consider the two-dimensional defocusing nonlinear Schrödinger equation on the unit disc with random initial data distributed according to the Gibbs measure. Under a radial symmetry assumption, we introduce a random resonance operator framework that allows us to construct strong local-in-time solutions at the regularity of the Gibbs measure. Combining this with Bourgain's invariant measure argument, we prove almost sure global well-posedness and invariance of the Gibbs measure for the resulting flow. This completes the program initiated by Tzvetkov on constructing invariant Gibbs dynamics for NLS on the disc.

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