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Title:	Complex Langevin simulations for $PT$ -symmetric models
Authors:	Kumar, Arpith (/jspui/browse?type=author&value=Kumar%2C+Arpith) Joseph, Anosh (/jspui/browse?type=author&value=Joseph%2C+Anosh)
Keywords:	Langevin Simulations $PT$ -symmetric
Issue Date:	2022
Publisher:	Proceeding of Science
Citation:	Proceedings of Science, 396(1), 45170.
Abstract:	Self-interacting scalar quantum field theories possessing $PT$ -symmetry are physically admissible since their energy spectrum is real and bounded below. However, models with $PT$ -invariant potentials can have complex actions in general and a non-perturbative study of such systems using methods based on traditional Monte Carlo is hindered due to numerical sign problem. In this work we employ complex Langevin based on stochastic quantization to study two-dimensional scalar field theories, including the ones exhibiting $PT$ -symmetry. We also study the simplest supersymmetric version of these systems and address the question on dynamical supersymmetry breaking.
Description:	Only IISER Mohali authors are available in the record.
URI:	<a href="https://doi.org/10.48550/arXiv.2201.12001">https://doi.org/10.48550/arXiv.2201.12001</a> ( <a href="https://doi.org/10.48550/arXiv.2201.12001">https://doi.org/10.48550/arXiv.2201.12001</a> ) <a href="http://hdl.handle.net/123456789/4446">http://hdl.handle.net/123456789/4446</a> ( <a href="http://hdl.handle.net/123456789/4446">http://hdl.handle.net/123456789/4446</a> )
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