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Bibliography

- [1] R. G. Jha and A. Samlodia, "GPU-Acceleration of Tensor Renormalization with PyTorch using CUDA," arXiv:2306.00358 [hep-lat].
- [2] R. G. Jha, "Supersymmetric wilson loops on the lattice in the large n limit," *The European Physical Journal Special Topics* (Jan., 2023) . https://doi.org/10.1140/epjs/s11734-023-00768-x.
- [3] R. G. Jha, "Notes on Quantum Computation and Information," arXiv: 2301.09679 [quant-ph].
- [4] N. S. Dhindsa, R. G. Jha, A. Joseph, A. Samlodia, and D. Schaich, "Non-perturbative phase structure of the bosonic BMN matrix model," *JHEP* 05 (2022) 169, arXiv:2201.08791 [hep-lat].
- [5] D. Schaich, R. G. Jha, and A. Joseph, "Thermal phase structure of dimensionally reduced super-Yang-Mills," PoS LATTICE2021 (2022) 187, arXiv:2201.03097 [hep-lat].
- [6] R. G. Jha, "Tensor renormalization of three-dimensional Potts model," arXiv:2201.01789 [hep-lat].
- [7] R. G. Jha, "Introduction to Monte Carlo for matrix models," *SciPost Phys. Lect. Notes* **46** (2022) 1, arXiv:2111.02410 [hep-th].
- [8] N. S. Dhindsa, R. G. Jha, A. Joseph, and D. Schaich, "Large-N limit of two-dimensional Yang-Mills theory with four supercharges," *PoS* LATTICE2021 (2022) 433, arXiv:2109.01001 [hep-lat].
- [9] J. Bloch, R. G. Jha, R. Lohmayer, and M. Meister, "Tensor renormalization group study of the three-dimensional O(2) model," *Phys. Rev. D* **104** no. 9, (2021) 094517, arXiv:2105.08066 [hep-lat].
- [10] S. Catterall, J. Giedt, R. G. Jha, D. Schaich, and T. Wiseman, "Three-dimensional super-Yang-Mills theory on the lattice and dual black branes," *Phys. Rev. D* 102 no. 10, (2020) 106009, arXiv:2010.00026 [hep-th].
- [11] N. Kalyanapuram and R. G. Jha, "Positive Geometries for all Scalar Theories from Twisted Intersection Theory," *Phys. Rev. Res.* 2 no. 3, (2020) 033119, arXiv:2006.15359 [hep-th].
- [12] R. G. Jha, "Critical analysis of two-dimensional classical XY model," J. Stat. Mech. 2008 (2020) 083203, arXiv:2004.06314 [hep-lat].
- [13] R. G. Jha, "Finite N unitary matrix model," arXiv:2003.00341 [hep-lat].
- [14] D. Schaich, R. G. Jha, and A. Joseph, "Thermal phase structure of a supersymmetric matrix model," *PoS* LATTICE2019 (2020) 069, arXiv:2003.01298 [hep-lat].
- [15] A. Bazavov, S. Catterall, R. G. Jha, and J. Unmuth-Yockey, "Tensor renormalization group study of the non-Abelian Higgs model in two dimensions," *Phys. Rev. D* **99** no. 11, (2019) 114507, arXiv:1901.11443 [hep-lat].
- [16] R. G. Jha, J. Laiho, and J. Unmuth-Yockey, "Lattice quantum gravity with scalar fields," *PoS* LATTICE2018 (2018) 043, arXiv:1810.09946 [hep-lat].
- [17] R. G. Jha, "The properties of D1-branes from lattice super Yang-Mills theory using gauge/gravity duality," PoS LATTICE2018 (2018) 308, arXiv:1809.00797 [hep-lat].
- [18] S. Catterall, J. Giedt, and R. G. Jha, "Removal of the trace mode in lattice N=4 super Yang-Mills theory," *Phys. Rev. D* **98** no. 9, (2018) 095017, arXiv:1808.04735 [hep-lat].
- [19] J. Giedt, S. Catterall, and R. G. Jha, "Truncation of lattice N=4 super Yang-Mills," *EPJ Web Conf.* 175 (2018) 11008.
- [20] S. Catterall, R. G. Jha, and A. Joseph, "Nonperturbative study of dynamical SUSY breaking in N=(2,2) Yang-Mills theory," *Phys. Rev. D* 97 no. 5, (2018) 054504, arXiv:1801.00012 [hep-lat].
- [21] R. G. Jha, S. Catterall, D. Schaich, and T. Wiseman, "Testing the holographic principle using lattice simulations," *EPJ Web Conf.* 175 (2018) 08004, arXiv:1710.06398 [hep-lat].
- [22] S. Catterall, R. G. Jha, D. Schaich, and T. Wiseman, "Testing holography using lattice super-Yang-Mills theory on a 2-torus," *Phys. Rev. D* **97** no. 8, (2018) 086020, arXiv:1709.07025 [hep-th].