

References

- [1] Pradyumna P. Belgaonkar et al. “Trimer superfluidity of antiparallel dipolar excitons in a bilayer heterostructure”. In: *arXiv e-prints*, arXiv:2507.15938 (2025), arXiv:2507.15938. DOI: 10.48550/arXiv.2507.15938. arXiv: 2507.15938 [cond-mat.mes-hall].
- [2] Sauri Bhattacharyya et al. “Metallic transport of hard-core bosons”. In: *Physical Review B* 109.3, 035117 (2024), p. 035117. DOI: 10.1103/PhysRevB.109.035117. arXiv: 2309.14479 [cond-mat.str-el].
- [3] Maxwell Block et al. “Performance of the rigorous renormalization group for first-order phase transitions and topological phases”. In: *Physical Review B* 103.19, 195122 (2021), p. 195122. DOI: 10.1103/PhysRevB.103.195122. arXiv: 2010.15851 [cond-mat.str-el].
- [4] Annabelle Bohrdt et al. “Multiparticle Interactions for Ultracold Atoms in Optical Tweezers: Cyclic Ring-Exchange Terms”. In: *Physical Review Letters* 124.7, 073601 (2020), p. 073601. DOI: 10.1103/PhysRevLett.124.073601. arXiv: 1910.00023 [cond-mat.quant-gas].
- [5] Umberto Borla, Ayush De, and Snir Gazit. ““Odd” Toric Code in a tilted field: Higgs-confinement multicriticality, spontaneous self-duality symmetry breaking, and valence bond solids”. In: *arXiv e-prints*, arXiv:2507.16523 (2025), arXiv:2507.16523. DOI: 10.48550/arXiv.2507.16523. arXiv: 2507.16523 [cond-mat.str-el].
- [6] Umberto Borla, Snir Gazit, and Sergej Moroz. “Deconfined quantum criticality in Ising gauge theory entangled with single-component fermions”. In: *Physical Review B* 110.20, L201110 (2024), p. L201110. DOI: 10.1103/PhysRevB.110.L201110. arXiv: 2402.00933 [cond-mat.str-el].
- [7] Umberto Borla, Sergej Moroz, and Snir Gazit. “Exotic criticality of single-component fermions coupled to Ising gauge fields in two dimensions”. In: *APS March Meeting Abstracts*. Vol. 2024. APS Meeting Abstracts. 2024, GG04.004.
- [8] Elyasaf Y. Cohen, Andrei Alexandru, and Snir Gazit. “Complex path simulations of geometrically frustrated ladders”. In: *Physical Review B* 109.11, 115122 (2024), p. 115122. DOI: 10.1103/PhysRevB.109.115122. arXiv: 2302.10935 [cond-mat.str-el].
- [9] Elyasaf Y. Cohen, Fakhre F. Assaad, and Snir Gazit. “Antiferromagnetism and Stripe Channel Order in the $SU(N)$ -Symmetric Two-Channel Kondo Lattice Model”. In: *arXiv e-prints*, arXiv:2509.12311 (2025), arXiv:2509.12311. DOI: 10.48550/arXiv.2509.12311. arXiv: 2509.12311 [cond-mat.str-el].
- [10] Ayush De, Leo Radzihovsky, and Snir Gazit. “Emergent Berezinskii-Kosterlitz-Thouless deconfinement in super-Coulombic plasmas”. In: *arXiv e-prints*, arXiv:2506.05461 (2025), arXiv:2506.05461. DOI: 10.48550/arXiv.2506.05461. arXiv: 2506.05461 [cond-mat.stat-mech].

- [11] Ayush De et al. “Stochastic sampling of operator growth dynamics”. In: *Physical Review B* 110.15, 155135 (2024), p. 155135. DOI: 10.1103/PhysRevB.110.155135. arXiv: 2401.06215 [cond-mat.str-el].
- [12] Maxime Dupont, Snir Gazit, and Thomas Scaffidi. “Evidence for deconfined $U(1)$ gauge theory at the transition between toric code and double semion”. In: *Physical Review B* 103.14, L140412 (2021), p. L140412. DOI: 10.1103/PhysRevB.103.L140412. arXiv: 2008.06509 [cond-mat.str-el].
- [13] Maxime Dupont, Snir Gazit, and Thomas Scaffidi. “From trivial to topological paramagnets: The case of Z_2 and Z_2^3 symmetries in two dimensions”. In: *Physical Review B* 103.14, 144437 (2021), p. 144437. DOI: 10.1103/PhysRevB.103.144437. arXiv: 2008.11206 [cond-mat.str-el].
- [14] Patrick Emonts et al. “Finding the ground state of a lattice gauge theory with fermionic tensor networks: A 2+1 D Z_2 demonstration”. In: *Physical Review D* 107.1, 014505 (2023), p. 014505. DOI: 10.1103/PhysRevD.107.014505. arXiv: 2211.00023 [quant-ph].
- [15] Snir Gazit. *Dynamics Near Quantum Criticality in Two Space Dimensions*. 2015. DOI: 10.1007/978-3-319-19354-0.
- [16] Snir Gazit, Fakher F. Assaad, and Subir Sachdev. “Fermi Surface Reconstruction without Symmetry Breaking”. In: *Physical Review X* 10.4, 041057 (2020), p. 041057. DOI: 10.1103/PhysRevX.10.041057. arXiv: 1906.11250 [cond-mat.str-el].
- [17] Snir Gazit, Daniel Podolsky, and Assa Auerbach. “Critical Capacitance and Charge-Vortex Duality Near the Superfluid-to-Insulator Transition”. In: *Physical Review Letters* 113.24, 240601 (2014), p. 240601. DOI: 10.1103/PhysRevLett.113.240601. arXiv: 1407.1055 [cond-mat.str-el].
- [18] Snir Gazit, Daniel Podolsky, and Assa Auerbach. “Fate of the Higgs Mode Near Quantum Criticality”. In: *Physical Review Letters* 110.14, 140401 (2013), p. 140401. DOI: 10.1103/PhysRevLett.110.140401. arXiv: 1212.3759 [cond-mat.quant-gas].
- [19] Snir Gazit, Mohit Randeria, and Ashvin Vishwanath. “Charged fermions coupled to Z_2 gauge fields: Superfluidity, confinement and emergent Dirac fermions”. In: *arXiv e-prints*, arXiv:1607.03892 (2016), arXiv:1607.03892. DOI: 10.48550/arXiv.1607.03892. arXiv: 1607.03892 [cond-mat.str-el].
- [20] Snir Gazit, Mohit Randeria, and Ashvin Vishwanath. “Emergent Dirac fermions and broken symmetries in confined and deconfined phases of Z_2 gauge theories”. In: *Nature Physics* 13.5 (2017), pp. 484–490. DOI: 10.1038/nphys4028.
- [21] Snir Gazit and Ashvin Vishwanath. “Bosonic topological phase in a paired superfluid”. In: *Physical Review B* 93.11, 115146 (2016), p. 115146. DOI: 10.1103/PhysRevB.93.115146. arXiv: 1510.05007 [cond-mat.str-el].
- [22] Snir Gazit et al. “Collective Modes in a Quantum Solid”. In: *Physical Review Letters* 117.8, 085302 (2016), p. 085302. DOI: 10.1103/PhysRevLett.117.085302. arXiv: 1511.02866 [cond-mat.str-el].

- [23] Snir Gazit et al. “Confinement transition of \mathbb{Z}_2 gauge theories coupled to massless fermions: Emergent quantum chromodynamics and $SO(5)$ symmetry”. In: *Proceedings of the National Academy of Science* 115.30 (2018), E6987–E6995. DOI: 10.1073/pnas.1806338115. arXiv: 1804.01095 [cond-mat.str-el].
- [24] Snir Gazit et al. “Dynamics and conductivity near quantum criticality”. In: *Physical Review B* 88.23, 235108 (2013), p. 235108. DOI: 10.1103/PhysRevB.88.235108. arXiv: 1309.1765 [cond-mat.str-el].
- [25] Snir Gazit et al. “Super-resolution and reconstruction of sparse sub-wavelength images”. In: *Optics Express* 17.26 (2009), p. 23920. DOI: 10.1364/OE.17.023920. arXiv: 0911.0981 [physics.optics].
- [26] Snir Gazit et al. “Super-resolution and reconstruction of sparse sub-wavelength images: erratum”. In: *Optics Express* 18.25 (2010), p. 26631. DOI: 10.1364/OE.18.026631.
- [27] Byungmin Kang et al. “Superuniversality from disorder at two-dimensional topological phase transitions”. In: *Physical Review B* 102.22, 224204 (2020), p. 224204. DOI: 10.1103/PhysRevB.102.224204. arXiv: 2008.09617 [cond-mat.str-el].
- [28] Ilia Khait et al. “Spin transport of weakly disordered Heisenberg chain at infinite temperature”. In: *Physical Review B* 93.22, 224205 (2016), p. 224205. DOI: 10.1103/PhysRevB.93.224205. arXiv: 1603.06588 [cond-mat.dis-nn].
- [29] Michael H. Kolodrubetz et al. “Topological Floquet-Thouless Energy Pump”. In: *Physical Review Letters* 120.15, 150601 (2018), p. 150601. DOI: 10.1103/PhysRevLett.120.150601. arXiv: 1711.00014 [cond-mat.quant-gas].
- [30] Andrew Lucas et al. “Dynamical Response near Quantum Critical Points”. In: *Physical Review Letters* 118.5, 056601 (2017), p. 056601. DOI: 10.1103/PhysRevLett.118.056601. arXiv: 1608.02586 [cond-mat.str-el].
- [31] Johannes Motruk et al. “Rigorous renormalization group at first-order phase transitions”. In: *APS March Meeting Abstracts*. Vol. 2018. APS Meeting Abstracts. 2018, S34.009.
- [32] Frederik Nathan et al. “Quasiperiodic Floquet-Thouless Energy Pump”. In: *Physical Review Letters* 127.16, 166804 (2021), p. 166804. DOI: 10.1103/PhysRevLett.127.166804. arXiv: 2010.11485 [cond-mat.mes-hall].
- [33] Avia Noah et al. “Field-induced antiferromagnetic correlations in a nanopatterned van der Waals ferromagnet: a potential artificial spin ice”. In: *arXiv e-prints*, arXiv:2410.07310 (2024), arXiv:2410.07310. DOI: 10.48550/arXiv.2410.07310. arXiv: 2410.07310 [cond-mat.mtrl-sci].
- [34] Avia Noah et al. “Field-Induced Antiferromagnetic Correlations in a Nanopatterned Van der Waals Ferromagnet: A Potential Artificial Spin Ice”. In: *Advanced Science* 12.5, 2409240 (2025), p. 2409240. DOI: 10.1002/advsc.202409240.

- [35] Avia Noah et al. “Nano-Patterned Magnetic Edges in CrGeTe₃ for Quasi 1-D Spintronic Devices”. In: *ACS Applied Nano Materials* 6.10 (2023), pp. 8627–8634. DOI: 10.1021/acsanm.3c01008. arXiv: 2305.14431 [cond-mat.mes-hall].
- [36] Avia Noah et al. “Tunable exchange bias in the magnetic Weyl semimetal Co₃Sn₂S₂”. In: *Physical Review B* 105.14, 144423 (2022), p. 144423. DOI: 10.1103/PhysRevB.105.144423. arXiv: 2101.11639 [cond-mat.mtrl-sci].
- [37] Oren Ofer et al. “Dynamic spin fluctuations at $T \rightarrow 0$ in a spin-1/2 ferromagnetic kagome lattice”. In: *Physical Review B* 89.20, 205116 (2014), p. 205116. DOI: 10.1103/PhysRevB.89.205116. arXiv: 1311.7411 [cond-mat.str-el].
- [38] Christopher T. Olund et al. “Adiabatic ground state preparation in an expanding lattice”. In: *Physical Review B* 101.15, 155152 (2020), p. 155152. DOI: 10.1103/PhysRevB.101.155152. arXiv: 2002.09592 [cond-mat.str-el].
- [39] Lior Oppenheim et al. “Machine learning the operator content of the critical self-dual Ising-Higgs lattice gauge theory”. In: *Physical Review Research* 6.4, 043322 (2024), p. 043322. DOI: 10.1103/PhysRevResearch.6.043322. arXiv: 2311.17994 [cond-mat.str-el].
- [40] Thomas Schuster et al. “Floquet Hopf Insulators”. In: *Physical Review Letters* 123.26, 266803 (2019), p. 266803. DOI: 10.1103/PhysRevLett.123.266803. arXiv: 1903.02558 [cond-mat.mes-hall].
- [41] Guy Segall, Snir Gazit, and Daniel Podolsky. “Improved actions using the renormalization group”. In: *Physical Review B* 111.18, 184413 (2025), p. 184413. DOI: 10.1103/PhysRevB.111.184413. arXiv: 2408.06414 [cond-mat.stat-mech].
- [42] Yoav Shechtman et al. “Super-resolution and reconstruction of sparse images carried by incoherent light”. In: *Optics Letters* 35.8 (2010), p. 1148. DOI: 10.1364/OL.35.001148.
- [43] Gal Shkolnik et al. “Infinitely fast critical dynamics: Teleportation through temporal rare regions in monitored quantum circuits”. In: *arXiv e-prints*, arXiv:2411.03442 (2024), arXiv:2411.03442. DOI: 10.48550/arXiv.2411.03442. arXiv: 2411.03442 [cond-mat.dis-nn].
- [44] Gal Shkolnik et al. “Measurement induced criticality in quasiperiodic modulated random hybrid circuits”. In: *Physical Review B* 108.18, 184204 (2023), p. 184204. DOI: 10.1103/PhysRevB.108.184204. arXiv: 2308.03844 [cond-mat.dis-nn].
- [45] P. Sidorenko et al. “Improving techniques for diagnostics of laser pulses by compact representations”. In: *Optics Express* 27.6 (2019), p. 8920. DOI: 10.1364/OE.27.008920.
- [46] Yevgeny Slobodkin et al. “Quantum Phase Transitions of Trilayer Excitons in Atomically Thin Heterostructures”. In: *Physical Review Letters* 125.25, 255301 (2020), p. 255301. DOI: 10.1103/PhysRevLett.125.255301. arXiv: 2004.06687 [cond-mat.mtrl-sci].

- [47] A. Szameit et al. “Far-Field Microscopy of Sparse Subwavelength Objects”. In: *arXiv e-prints*, arXiv:1010.0631 (2010), arXiv:1010.0631. DOI: 10.48550/arXiv.1010.0631. arXiv: 1010.0631 [physics.optics].
- [48] A. Szameit et al. “Sparsity-based single-shot subwavelength coherent diffractive imaging”. In: *Nature Materials* 11.5 (2012), pp. 455–459. DOI: 10.1038/nmat3289. arXiv: 1112.4707 [physics.optics].
- [49] Pavel A. Volkov, Snir Gazit, and Jedediah H. Pixley. “Magnon Bose-Einstein condensation and superconductivity in a frustrated Kondo lattice”. In: *Proceedings of the National Academy of Science* 117.34 (2020), pp. 20462–20467. DOI: 10.1073/pnas.2000501117. arXiv: 1910.03589 [cond-mat.str-el].
- [50] Ayelet Zalic et al. “High Magnetic Field Stability in a Planar Graphene-NbSe₂ SQUID”. In: *Nano Letters* 23.13 (2023), pp. 6102–6108. DOI: 10.1021/acs.nanolett.3c01552. arXiv: 2211.01020 [cond-mat.supr-con].
- [51] Michal Zimmerman, Ronen Rapaport, and Snir Gazit. “Collective inter-layer pairing and pair superfluidity in vertically stacked layers of dipolar excitons”. In: *Proceedings of the National Academy of Science* 119.30, e2205845119 (2022), e2205845119. DOI: 10.1073/pnas.2205845119. arXiv: 2202.11754 [cond-mat.mes-hall].