Publications

(April 2022)

I. Papers (in refereed journals) and major book chapters

1. P.N. Jepsen, Y.K. Lee, H. Lin, I. Dimitrova, Y. Margalit, W.W. Ho, and W. Ketterle:
Catching Bethe phantoms and quantum many-body scars: Long-lived spin-helix states in Heisenberg magnets.
Preprint, arXiv:2110.12043, https://arxiv.org/abs/2110.12043

2. J. de Hond, J. Xiang, W.C. Chung, E. Cruz-Colón, W. Chen, W.C. Burton, C.J. Kennedy, and W. Ketterle:
Preparation of the spin-Mott state: A spinful Mott insulator of repulsively bound pairs.
Phys. Rev. Lett. **128**, 093401 (2022), https://doi.org/10.1103/PhysRevLett.128.093401

3. H. Son, J.J. Park, Y.-K. Lu, A.O. Jamison, T. Karman, and W. Ketterle:
Control of reactive collisions by quantum interference.
Science **375**, 1006–1010 (2022), https://doi.org/10.1126/science.abl7257

4. S. Burchesky, L. Anderegg, Y. Bao, S.S. Yu, E. Chae, W. Ketterle, K.K. Ni, and J.M. Doyle:
Rotational Coherence Times of Polar Molecules in Optical Tweezers.
Phys. Rev. Lett. **127**, 123202 (2021), https://doi.org/10.1103/PhysRevLett.127.123202

5. N. Jepsen, W.W. Ho, J. Amato-Grill, I .Dimitrova, E. Demler, and W. Ketterle:
Transverse spin dynamics in the anisotropic Heisenberg model realized with ultracold atoms.
Phys. Rev. X **11**, 041054 (2021), https://doi.org/10.1103/PhysRevX.11.041054

6. Y. Margalit, Y.-K. Lu, F.C. Top, and W. Ketterle:
Pauli blocking of light scattering in degenerate fermions
Science **374**, 976–979 (2021), https://www.science.org/doi/10.1126/science.abi6153

7. L. Anderegg, S. Burchesky, Y. Bao, S.S. Yu, T. Karman, E. Chae, K.-K. Ni, W. Ketterle, and J.M. Doyle:
Observation of Microwave Shielding of Ultracold Molecules.
Science **373**, 779-782 (2021), https://doi.org/10.1126/science.abg9502

8. W.C. Chung, J. de Hond, J. Xiang, E. Cruz-Colón, and W. Ketterle:
Tunable Single-Ion Anisotropy in Spin-1 Models Realized with Ultracold Atoms.
Phys. Rev. Lett. **126**, 163203 (2021), https://doi.org/10.1103/PhysRevLett.126.163203

9. F.C. Top, Y. Margalit, and W: Ketterle:
Spin-polarized fermions with p-wave interactions.
Phys. Rev. A **104**, 043311 (2021), https://link.aps.org/doi/10.1103/PhysRevA.104.043311

10. P.N. Jepsen, J. Amato-Grill, I .Dimitrova, W.W. Ho, E. Demler, and W. Ketterle:
Spin transport in a tunable Heisenberg model realized with ultracold atoms.
Nature **588**, 403–407 (2020), https://doi.org/10.1038/s41586-020-3033-y

11. A. Venegas-Gomez, J. Schachenmayer, A.S. Buyskikh, W. Ketterle, M.L. Chiofalo, and A. J. Daley:
Adiabatic preparation of entangled, magnetically ordered states with cold bosons in optical lattices.
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12. L.W. Cheuk, L. Anderegg, Y. Bao, S. Burchesky, S. Yu, W. Ketterle, K.-K. Ni, and J.M. Doyle:
Observation of Collisions between Two Ultracold Ground-State CaF Molecules.
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13. A. Venegas-Gomez, A.S Buyskikh, J. Schachenmayer, W. Ketterle, and A.J. Daley:
Dynamics of rotated spin states and magnetic ordering with two-component bosonic atoms in optical lattices.
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14. W. Lunden, L. Du, M. Cantara, P. Barral, A.O. Jamison, and W. Ketterle:
Enhancing the capture velocity of a Dy magneto-optical trap with two-stage slowing.
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16. T. Secker, J. Amato-Grill, W. Ketterle, and S. Kokkelmans:
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Exploring emergent heterogeneous phases in strongly repulsive Fermi gases.
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21. J. Amato-Grill, N. Jepsen, I. Dimitrova, W. Lunden, and W. Ketterle:
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Phys. Rev. A **99**, 033612 (2019), https://doi.org/10.1103/PhysRevA.99.033612

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