

Colin Parker

Current position, title and address

Assistant Professor, School of Physics, Georgia Institute of Technology, Atlanta, GA 30332
Tel (404) 385-4444; email: cparker@gatech.edu

Previous positions

Postdoctoral Fellow, University of Chicago (2011-2015 – Advisor: Cheng Chin)
Research and Teaching Assistant, Princeton University (2006-2011)

Education

Ph.D., Physics, 2011, Princeton University, Princeton, NJ
B.S., Physics, 2006, Harvey Mudd College, Claremont, CA

Honors and Awards

NSF CAREER Award Recipient 2020
Air Force Office of Scientific Research Young Investigator Grant (AFOSR-YIP) 2017-2020
Kadanoff-Rice Postdoctoral Fellow, University of Chicago 2011-2013

Service

Peer review for the following journals: Nature Physics, Science, Phys. Rev. Lett., Phys. Rev. A/B
Grant review for AFOSR
School of Physics Strategic Initiatives Task Force (2020 - present)
“Creating the Next in Research: Research that Matters” Institute Committee Member (2020)
Georgia Tech Institute for Materials Search Committee (2020)

Publications

More than 20 scientific publications (refereed journals)
8 invited talks, and additional contributed presentations

Research Grants and Contracts

Past: AFOSR YIP: Ultracold Atomic Kondo Impurities (\$616,414 – 2017-2020)
Current: NSF CAREER: A Versatile Quantum Simulator for Fermionic Ordering (\$714,129 - 2020-2025)

Five Relevant Publications

- 1) Y. Long, F. Xiong, and C. V. Parker, “Spin Susceptibility above the Superfluid Onset in Ultracold Fermi Gases” *Phys. Rev. Lett.* **126**, 153402 (2021) ([10.1103/PhysRevLett.126.153402](https://doi.org/10.1103/PhysRevLett.126.153402))
- 2) F. Xiong, Y. Long, and C. V. Parker, “Enhanced principle component method for fringe removal in cold atom images” *JOSA B* **37** (7) 2041-2044 (2020) ([10.1364/JOSAB.391297](https://doi.org/10.1364/JOSAB.391297))
- 3) V. Gaire, C. S. Raman, and C. V. Parker, “Subnanometer optical linewidth of thulium atoms in rare-gas crystals” *Phys. Rev. A* **99** 022505 (2019) ([10.1103/PhysRevA.99.022505](https://doi.org/10.1103/PhysRevA.99.022505))
- 4) Y. Long, F. Xiong, V. Gaire, C. Caligan, and C. V. Parker, “All-optical production of ^6Li molecular Bose-Einstein condensates in excited hyperfine levels” *Phys. Rev. A* **98** 043626 (2018) ([10.1103/PhysRevA.98.043626](https://doi.org/10.1103/PhysRevA.98.043626))
- 5) F. Sievers, S. Wu, N. Kretschmar, D. R. Fernandes, D. Suchet, M. Rabinovic, C. V. Parker, L. Khaykovich, C. Salomon, and F. Chevy, “Simultaneous sub-Doppler laser cooling of fermionic ^6Li and

⁴⁰K on the D1 line: Theory and Experiment,” *Phys. Rev. A* **91** 023426 (2015)
([10.1103/PhysRevA.91.023426](https://doi.org/10.1103/PhysRevA.91.023426))

Five Other Publications

- 1) S.-K. Tung, J. Johansen, K. Jiménez-García, C. V. Parker, and C. Chin, “Geometric scaling of Efimov states in a ⁶Li-¹³³Cs mixture,” *Phys. Rev. Lett.* **113** 240402 (2014) ([10.1103/PhysRevLett.113.240402](https://doi.org/10.1103/PhysRevLett.113.240402))
- 2) C. V. Parker, L.-C. Ha, and C. Chin, “Direct observation of effective ferromagnetic domains of cold atoms in a shaken optical lattice,” *Nature Phys.* **9** 769-774 (2013) ([10.1038/nphys2789](https://doi.org/10.1038/nphys2789))
- 3) C. V. Parker, P. Aynajian, E. H. da Silva Neto, A. Pushp, S. Ono, J.-S. Wen, Z.-J. Xu, G. Gu, and A. Yazdani, “Fluctuating Stripes at the Onset of Pseudogap in the High-Tc Superconductor Bi₂Sr₂CaCu₂O_{8+x},” *Nature* **468**, 677-680 (2010) ([10.1038/nature09597](https://doi.org/10.1038/nature09597)) **Selected for News and Views**
- 4) P. Aynajian*, E. H. da Silva Neto*, C. V. Parker*, Y.-K. Huang, A. Pasupathy, J. Mydosh, and A. Yazdani, “Visualizing the formation of the Kondo lattice and the hidden order in URu₂Si₂,” *Proc. Nat’l. Acad. Sci. USA* **107**, 10383 (2010) ([10.1073/pnas.1005892107](https://doi.org/10.1073/pnas.1005892107))
- 5) C. V. Parker, A. Pushp, A. N. Pasupathy, K. K. Gomes, J.-S. Wen, Z.-J. Xu, S. Ono, G. Gu, and A. Yazdani, “Nanoscale Proximity Effect in the High-Temperature Superconductor Bi₂Sr₂CaCu₂O_{8+δ} Using a Scanning Tunneling Microscope,” *Phys. Rev. Lett.* **104**, 117001 (2010)
([10.1103/PhysRevLett.104.117001](https://doi.org/10.1103/PhysRevLett.104.117001))