# Yaqi Hou

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Department of Physics and Astronomy
University of North Carolina - Chapel Hill

## Education

**University of North Carolina at Chapel Hill** — Chapel Hill, NC
*PhD Candidate in Physics* — *Aug. 2016 - May 2022*

**Duke University** — Durham, NC
*Exchange Student in Physics* — *Aug. 2013 - Jul. 2014*

**Taishan College, Shandong University** — Jinan, P. R. China
*B.S. in Physics* — *Sep. 2011 - Jun. 2015*

## Academic position

**Graduate Research Assistant** — **May, 2018 - Present**
Dept. of Physcis and Astronomy, UNC, Chapel Hill, NC

**Graduate Teaching Assistant** — **Jun, 2016 - Present**
Dept. of Physcis and Astronomy, UNC, Chapel Hill, NC

## Teaching experience

- PHYS 114 General Physics for non-physics major (workshop) — Teaching Assistant
- PHYS 118 General Physics for physics major (workshop) — Teaching Assistant
- PHYS 201/401 Mechanics — Grader
- PHYS 331 Introductory numerical techniques in physcis (lab session) — Teaching Assistant
- PHYS 521 Advanced Quantum Mechanics — Grader
- PHYS 741 Statistical Mechanics (PhD qualification exam recitation) — Graduate Learning Assistant
- PHYS 822 Quantum Field Theory I — Grader

## Publications

8. *Fourth- and fifth-order virial expansion of harmonically trapped fermions at unitarity*
**Y. Hou**, K. J. Morrell, A. J. Czejdo, J. E. Drut, arXiv:2104.14440, *Phys. Rev. Research accepted*

7. *Pairing and the spin susceptibility of the polarized unitary Fermi gas in the normal phase*
L. Rammelmüller, **Y. Hou**, J. E. Drut, J. Braun, Phys. Rev. A **103**, 043330 (2021)

6. *Fourth- and Fifth-Order Virial Coefficients from Weak Coupling to Unitarity*
**Y. Hou** and J. E. Drut, Phys. Rev. Lett. **125**, 050403 (2020)
Selected as Editor's suggestion

5. *Virial expansion of attractively interacting Fermi gases in one, two, and three dimensions, up to fifth order*
**Y. Hou** and J. E. Drut, Phys. Rev. A **102**, 033319 (2020)

4. *Virial coefficients of trapped and un-trapped three-component fermions with three-body forces in arbitrary spatial dimensions*
A. J. Czejdo, J. E. Drut, **Y. Hou**, J. R. McKenney and K. J. Morrell, Phys. Rev. A **101**, 063630 (2019)

3. *Leading-and next-to-leading-order semiclassical approximation to the first seven virial coefficients of spin-1/2 fermions across spatial dimensions*
**Y. Hou**, A. J. Czejdo, J. DeChant, C. R. Shill and J. E. Drut, Phys. Rev. A **100**, 063627 (2019)

2. *TEST_POSITIVE at W-NUT 2020 Shared Task-3: Joint Event Multi-task Learning for Slot Filling in Noisy Text*
C. Chen, C. Y. Huang, **Y. Hou**, Y. Shi, E. Dai and J. Wang. In Proceedings of the Sixth Workshop on Noisy User-generated Text (W-NUT) at EMNLP (2020)

1. *Thermal conductivity and thermoelectric performance of $Sr_xBa_{1-x}Nb_2O_6$ ceramics at high temperatures.* Y. Li, J. Liu, **Y. Hou**, Y. Zhang, Y. Zhou, W. Su, Y. Zhu, J. Li and C. Wang, Scr. Mater. **109**, 80-83 (2015).

## Presentations

3. *From few to many: thermodynamics with up to seventh-order virial coefficients*
**Y. Hou** and J. E. Drut, APS April Meeting 2021 S13.00007

2. *Fourth- and Fifth-Order Virial Coefficients from Weak Coupling to Unitarity*
**Y. Hou** and J. E. Drut, APS March Meeting 2021 M21.00006

1. *Fourth- and Fifth-Order Virial Coefficients from Weak Coupling to Unitarity*
**Y. Hou** and J. E. Drut, Southeastern Section of the APS (SESAPS) 2020 F05.00002

## Fellowships and Awards

- UNC Dissertation Completion Fellowship Aug, 2021 - May, 2022
*Support tuition, fees and stipends in last PhD year*
- UNC Dean's Graduate Fellowship in the College of Arts & Sciences May 2021
*Support summers fees, stipends and travel funds*