

Yifei Ni

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EDUCATION

University of Colorado at Boulder

Ph.D in Physics

Boulder, CO

Expected

University of Colorado at Boulder

Master of Science in Physics

Boulder, CO

August 2019

University of Waterloo

Bachelor of Science in Honours Physics

Waterloo, ON, Canada

June 2016

EXPERIENCE

Electrical Current Control of $\text{Cr}_2\text{Ge}_2\text{Te}_6$

Oct 2019 – Present

- Developed the probe for electrical current control measurement for the Bruker X-ray Diffractometer.
- Solved the crystal structure of $\text{Cr}_2\text{Ge}_2\text{Te}_6$ at different temperature and electrical current.
- Characterized the resistivity of $\text{Cr}_2\text{Ge}_2\text{Te}_6$ at different current.
- Implemented an automated experimental system for current control measurement with Matlab.

Single Crystal growth and characterization of Sr_2RuO_4

Aug 2017 - Dec 2019

- Grew single crystals of Sr_2RuO_4 with floating zone furnace.
- Annealed the Sr_2RuO_4 crystals under oxygen atmosphere in the MTI tube furnace.
- Characterized the surface and the chemical composition of Sr_2RuO_4 crystal with SEM/EDX.
- Measured the millikelvin resistivity of Sr_2RuO_4 with the Quantum Design PPMS Dilution Refrigerator module.

PUBLICATION

G. Cao, H. Zheng, H. Zhao, Y. Ni, C. Pocs, Y. Zhang, F. Ye, C. Hoffmann, X. Wang, M. Lee, M. Hermele, I. Kimchi, Quantum liquid from strange frustration in the trimer magnet $\text{Ba}_4\text{Ir}_3\text{O}_{10}$, npj Quantum Materials (2020)

H. Zhao, F. Ye, H. Zheng, B. Hu, Y. Ni, Y. Zhang, I. Kimchi, G. Cao, Ground state in the novel dimer iridate $\text{Ba}_{13}\text{Ir}_6\text{O}_{30}$ with $\text{Ir}^{6+}(5d^3)$ ions, Physical Review B 100 (6), 064418 (2019)

H. Zheng, W.H. Song, J. Terzic, H.D. Zhao, Y. Zhang, Y.F. Ni, L.E. DeLong, P. Schlottmann, G. Cao, Observation of a pressure-induced transition from interlayer ferromagnetism to intralayer antiferromagnetism in $\text{Sr}_4\text{Ru}_3\text{O}_{10}$, Physical Review B 98 (6), 064418 (2018)

H.D. Zhao, J. Terzic, H. Zheng, Y.F. Ni, Y. Zhang, F. Ye, P. Schlottmann, G. Cao, Decoupling of magnetism and electric transport in single-crystal $(\text{Sr}_{1-x}\text{A}_x)_2\text{IrO}_4$ ($\text{A} = \text{Ca}$ or Ba), Journal of Physics: Condensed Matter 30 (24), 245801 (2018)

Y. Ni, P. Xu, and J. D. D. Martin, Reduction of the dc electric field sensitivity of circular Rydberg states using non-resonant dressing fields, Physical Review A 92 (6), 063418 (2015).