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Education:

B.S.	Prairie View A&M University, Prarie View TX	1988-1993
M.S.	University of Minnesota, Twin Cities	1993-2001
Ph.D.	University of Minnesota, Twin Cities	1993-2001

PhD Advisor: Professor Eric Ganz

Employment History:

Asst Prof, University of Houston	2019 - present
Asst Prof, University of Houston	2016 - 2019
Res. Scientist, Massachusetts Institute of Technology	2013- 2016
Assistant Physicist, X-ray Science Division, Argonne National Lab	2010-2012
Project Scientist, Lawrence Berkeley National Lab	2010 – 2010
Res. Scientist, UC Berkeley	2006-2010

Honors and Awards:

- Robert A. Welch Endowed Professorship
- Morehouse Prize, National Society of Black Physics

Recent Research Highlights:

Nematic Fluctuations in Iron Oxychalgenides, <https://www-nature-com.ezproxy.lib.uh.edu/articles/s41535-020-00302-5>

Lab Facilities / Expertise:

Ultrafast electron diffraction (UED), resonant inelastic X-ray scattering (RIXS), X-ray and neutron scattering of novel strongly correlated electron systems such as high-Tc superconductors, exotic compounds and 2D materials

Five Selected Publications:

1. Mott localization in the van der Waals crystal CrI₃: A GGA+DMFT study, L. Craco, S. S. Carara, Y.-C. Shao, Y.-D. Chuang, and B. Freelon *Phys. Rev. B* **102**, 195130 (2020). <https://doi-org.ezproxy.lib.uh.edu/10.1103/PhysRevB.102.195130> Journal Impact Factor Number is 3.575
2. Electronic structure of rhombohedral CrX₃(X=Br,Cl,I) van der Waals crystals, L. Craco, S. S. Carara, Y.-C. Shao, Y.-D. Chuang, and B. Freelon *Phys. Rev. B* **103**, 235119 (2021). <https://doi-org.ezproxy.lib.uh.edu/10.1103/PhysRevB.103.235119> Journal Impact Factor Number is 3.575
3. Spectroscopic Determination of Key Energy Scales for the Base Hamiltonian of Chromium Trihalides, Y. C. Shao, B. Karki, W. Huang, X. Feng, G. Sumanasekera, J.-H. Guo, Y.-D. Chuang, and B. Freelon *Phys. Chem. Lett.* **12** (1), 724–731 (2021). <https://pubs-acsc-org.ezproxy.lib.uh.edu/doi/10.1021/acs.jpcllett.oco3476> Journal Impact Factor Number is 6.71.
4. Nematic Fluctuations in Iron-Oxychalcogenide Mott Insulators, B. Freelon, R. Sarkar, S. Kamusella, F. Brückner, V. Grinenko, Swagata Acharya, Mukul Laad, Luis Craco, Zahra Yamani, Roxana Flacau, Ian Swainson, Alaa Alafailakawi, Bhupendra Karki, Yuhao Liu, Hangdong Wang, Jianhua Du, Minghu Fang, H.-H. Klauss, *Nature Quantum Materials* **6**, 4 (2021). <https://doi.org/10.1038/s41535-020-00302-5> Journal Impact Factor Number is 6.562.
5. B. Karki, B. Freelon, M. Rajapakse, R. Musa, SMS Shah Riyadh, B. Morris, Ming Yu, G. Sumanasekera and J. B. Jasinski, Strain-induced vibrational properties of few layer black phosphorus and MoTe₂ via Raman spectroscopy *Nanotechnology* **31**, 425707 (2020). <https://doi.org/10.1088/1361-6528/aba13e> Journal Impact Factor Number is 3.551.