

Brenden R. Ortiz

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Education / Appointments:

2023 – present:	Wigner Distinguished Staff Fellow	Oak Ridge National Laboratory, TN
2019 – 2023:	Elings Postdoctoral Research Fellow	UC Santa Barbara, Santa Barbara, CA
2013 – 2018:	Ph.D. Material Science, GPA 4.0	Colorado School of Mines, Golden, CO
2009 – 2013:	B.S. Engineering Physics, GPA 4.0	Colorado School of Mines, Golden, CO

Professional Societies / Guest Appointments:

2025 – present: Guest Editor at NPJ Quantum Materials
Selected to curate special issue entitled “Frontiers in Kagome Metal Research” for NPJ Quantum Materials. Responsibilities include identifying other guest editors, assigning reviewers, screening/soliciting submissions, and directing focus of the special issue.

2025 – present: APS-GQMS Early-Career Member-at-large
Elected as Early-career member-at-large for the Group on Quantum Materials Synthesis (GQMS) at the American Physics Society (APS).

2024: APS-FDI Member-at-large
Elected as Early-career member-at-large for the Forum on Diversity and Inclusion group at the American Physics Society (APS). Position was passed to other candidates due to federal mandate in early 2025.

Awards:

2025: Clarivate Highly Cited Researcher
Highly Cited Researchers demonstrate significant and broad influence in their field of research. Each researcher selected has authored multiple Highly Cited Papers which rank in the top 1% by citations

2025: UT-Battelle Early-Career Research Accomplishment Award
UT-Battelle internal award for the demonstration of early-career research excellence and technical achievement as chosen by a committee of managers and peers at Oakridge National Laboratory

2025: UT-Battelle Directors Choice Award
UT-Battelle internal award selected by the Laboratory Director as additional recognition for excellence in research, technical merit, or lab leadership.

2023: IOP Trusted Reviewer Award
IOP Trusted Reviewer certification is an external review/recognition designed to recognize the high-quality reviewers in the physical sciences.

2023: Oakridge National Laboratory Distinguished Staff (Wigner) Fellowship Award
Fellowship program aimed to cultivate future scientific leaders within US national laboratory network.

2022: Bright Horizon Global Foundation Materials Department Service Award
Award through Bright Horizon Global Foundation, given for “outstanding contributions to shared facilities and dedication to mentorship.

2019: Elings Prize Fellowship in Science
Postdoctoral fellowship awarded through UC Santa Barbara and the California NanoSystems Institute to support research, travel, and professional development.

2018: Rath Research Award
Award presented to graduating Ph.D. student for the “Best Thesis with Potential for the Greatest Domestic Social Impact”

2009: Boettcher Scholar
Colorado unique, merit and service-based scholarship including full tuition, room/board, and stipend for 4 years. Awarded to 42 students annually.

Prior Research Focus:

Postdoctoral Work
UC Santa Barbara

2019 – 2023
Materials Dept.

Design of material platforms for the exploration of novel phenomenon represents a key challenge to material scientists. For example, the hunt for topological superconductivity is tightly linked with the search for Majorana fermions and the potential for solid-state Majorana-based quantum computing. We focus on harmonizing materials design/discovery with high-quality characterization to accelerate the identification and vetting of candidates that could host a variety of exotic physics (e.g. Weyl semimetals, topological superconductors, quantum spin liquids). With new material platforms in hand, we also focus on in-depth study of new materials using a variety of scattering techniques, ranging from inelastic neutron scattering to resonant X-ray diffraction. The development of new platforms involving frustrated motifs (kagome, triangular lattices) was also a primary goal. Work here helped to develop and popularize our work in kagome superconductors, namely the AV_3Sb_5 family of kagome superconductors and their broad adoption in the condensed matter community.

Doctoral Work
Colorado School of Mines

2013 – 2018
Physics Dept.

In the spirit of the Materials Genome Initiative (MGI), we developed new metrics for the thermoelectric quality factor which are accessible through high-throughput computation. We have leveraged strengths in material synthesis and computational horsepower to discover multiple new classes of promising thermoelectric materials. Furthermore, we tackle problems which are cross-cutting through the semiconductor industry, including doping and defect formation. In the past few years, success of high-throughput computational efforts within the MGI have revealed new opportunities within materials science. The rapid identification of materials and the emergence of machine learning as an adaptive tool promises to further enhance our search for functional materials. However, the field of Materials Science is still a heavily data-limited regime. The potential of machine learning as a transformative technique has inspired our recent work to focus on the development of high-throughput synthetic techniques for bulk samples alongside high-throughput characterization.

Mentorship:

2021-2022 : Postdoctoral mentor for Quantum Foundry REU (Research Experience for Undergraduates), a program aimed to provide research experience to talented undergraduates from across the country. (12 week program, 40 hours/week)

Mentees:

Miles Knudtson (2022-2023), Defect control in $Pr_2Sn_2O_7$ powders
Malia Gundayao (2022), Discovery of new Yb-based metallic kagome magnets
Soren Bear (2021), Software design for cryogenic strain-cell measurements
Michael Garcia (2021), Discovery of Ln_2InSbO_7 pyrochlore oxides
Marcos Marmolejo (2021), Single crystal growth of Ln_2InSbO_7 pyrochlore oxides

2020 – 2021: Instructor for California Nanosystems Institute School for Scientific Thought (CNSI SST). 5-week NSF funded outreach and teacher training program aimed at bringing the fundamentals of quantum mechanics and quantum computing to diverse groups of high school students. Program was structured as a virtual class with an at-home lab component. My focus was on crystallography and crystal growth. (1h class per week, approx 6 weeks, 15 students)

2013 – 2019: Mentor and cofounder for BOTS (Bridge Opportunities for Transfer Student Success), an outreach program to provide personal/professional mentorship for talented community college students. (10+ week program, 40 hours/week)

Mentees:

Jaime Corchado (2013), Design of thermoelectric measurement software
 Armando Lopez (2014-2016), Synthesis of novel Zintl thermoelectrics
 Chamai Shahim (2015), Design of thermoelectric measurement hardware
 Nichole Schneider (2018), The Zn-V-Te and Cu-V-Te systems
 Erik Benson (2018-2019), Discovery and properties of n-type Zintl RbGaSb₄
 Tara Braden (2017-2019), Exploratory synthesis of new Sb-based Zintls

2015 – 2019: Graduate mentor for REU (Research Experience for Undergraduates), a program aimed to provide research experience to talented undergraduates from across the country. (10 week program, 40 hours/week)

Mentees:

Rachel Mow (2015), Synthesis of novel Zintl thermoelectric KAlSb₄
 Kirstine Dalgaard (2015), Alloying in the ZnSiP₂-ZnGeP₂ solar absorber
 Kira Ragazzo (2015), Synthesis of ZnSiP₂ single crystals from Zn-flux
 Mayssa Gregoire (2017), Alloying in the Ag₈(Ge,Sn)(Se,Te)₆ system

Recent Invited Presentations:

“Accelerating discovery of single-crystal quantum materials” at ORNL meeting with Darío Gils; Oak Ridge, TN (2025)

“Development of new kagome metals” at Brigham Young University Colloquium Series; Provo, UT (2025)

“Frontiers in AM₃X₄ and AM₆X₆ kagome materials; development of new kagome metals” at UC Santa Barbara Workshop for Quantum Materials Synthesis, Santa Barbara, CA (2025)

“Frontiers in AM₃X₄ and AM₆X₆ kagome materials; development of new kagome metals” at American Ceramics Society Conference on Electronic Materials and Applications, Denver CO (2025)

“Development of new kagome motifs” at Neutron Sciences Division Quantum Materials Initiative, Oak Ridge, TN (2025)

“Frontiers in AM₃X₄ and AM₆X₆ kagome material” at Quantum Materials Young Investigator Workshop, Oak Ridge, TN (2025)

“The AV₃Sb₅ (A: K, Rb, Cs) tale; Evolution of a kagome superconductor” at Neutrons and Complementary Techniques for Quantum Materials Workshop, Oak Ridge, TN (2024)

“Development of new kagome metals” at University of Central Florida Colloquium Series, Orlando, FL (2024)

“Hierarchical categorization of kagome metals” at Workshop on Design of Topological Materials, Santa Barbara, CA (2023)

Publications (please also check the [Google Scholar](#) page):

138. M. S. Cook, **B. R. Ortiz**, P. Park, K. Gornicka, S. Sarker, J. Yan, M. A. McGuire, Unconventional magnetotransport and antiferromagnetic order in Eu₂InTe₅, *Phys. Rev. Mater.*, **9**, 124410 (2025) [[URL](#)]

137. F. Yang, X. Huang, H. Tan, A. Kundu, S. Kim, M. Thinel, J. Ingham, A. Rajapitamahuni, Y. Cai, C. Nelson, E. Vescovo, W. R. Meier, D. Mandrus, **B. R. Ortiz**, A. Pasupathy, B. Yan, H. Miao, Fermi-surface driven frustrations in charge-ordered kagome metal LuNb₆Sn₆, *Phys. Rev. B*, **112** (2025) [[URL](#)]

137. F. Yang, X. Huang, H. Tan, A. Kundu, S. Kim, M. Thinel, J. Ingham, A. Rajapitamahuni, Y. Cai, C. Nelson, E. Vescovo, W. R. Meier, D. Mandrus, **B. R. Ortiz**, A. Pasupathy, B. Yan, H. Miao, Fermi-surface driven frustrations in charge-ordered kagome metal LuNb₆Sn₆, *Phys. Rev. B*, **112** (2025) [[URL](#)]

136. M. Xu, S. Cheng, A. Capa Salinas, G. Pokharel, A. LaFleur, H. Li, H. Tan, **B. R. Ortiz**, Q. Deng, B. Yan, *et al.*, Pervasive electronic nematicity as the parent state of kagome superconductors,

arXiv (2025) [\[URL\]](#)

- 135.** M. A. McGuire, M. S. Cook, **B. R. Ortiz**, J. Yan, A. F. May, Enhanced Néel temperature and unusual thermal expansion in flux-grown FeCrAs crystals, *Inorg. Chem.* (2025) [\[URL\]](#)
- 134.** S. J. Gomez Alvarado, J. R. Chamorro, D. Rout, J. Hielscher, S. Schwarz, C. Benyacko, M. B. Stone, V. O. Garlea, A. R. Jackson, G. Pokharel, R. Gomez, **B. R. Ortiz**, S. Sarker, L. Kautzsch, L. C. Gallington, R. Seshadri, S. D. Wilson, Interleaved bond frustration in a triangular lattice antiferromagnet, *Nat. Mater.* (2025) [\[URL\]](#)
- 133.** H. Wu, H. el Mrabet Haje, M. Dubbelman, **B. R. Ortiz**, S. D. Wilson, M. N. Ali, Y. Wang, Supercurrent interference and its transfer in a kagome superconductor, *arXiv* (2025) [\[URL\]](#)
- 132.** Y. Luo, M. Powell, J. A. M. Paddison, **B. R. Ortiz**, J. R. Stewart, J. W. Kolis, A. A. Aczel, Magnetic moment fragmentation in an all-in-all-out pyrochlore $\text{Nd}_2\text{Sn}_2\text{O}_7$, *arXiv* (2025) [\[URL\]](#)
- 131.** H. Yoshida, H. Takeda, J. Yan, Y. Kanemori, **B. R. Ortiz**, Y. M. Oey, S. D. Wilson, M. Konczykowski, K. Ishihara, T. Shibauchi, *et al.*, Observation of anomalous thermal Hall effect in a kagome superconductor, *Sci. Adv.*, **11**, eadu2973 (2025) [\[URL\]](#)
- 130.** S. R. Hatt, C. Shaw, E. Zappala, R. Baral, S. Calder, G. D. Morris, **B. R. Ortiz**, K. Chesnel, B. A. Frandsen, Cluster spin glass correlations and dynamics in $\text{Zn}_{0.5}\text{Mn}_{0.5}\text{Te}$, *Phys. Rev. B*, **112**, 144440 (2025) [\[URL\]](#)
- 129.** S. J. Gomez Alvarado, **B. R. Ortiz**, S. Bear, B. A. Gonzalez, A. N. Capa Salinas, A. Berlie, M. J. Graf, S. D. Wilson, Magnetic dilution in the triangular lattice antiferromagnet $\text{NaYb}_{1-x}\text{Lu}_x\text{O}_2$, *Phys. Rev. B*, **112**, 144434 (2025) [\[URL\]](#)
- 128.** Q. Deng, H. Tan, **B. R. Ortiz**, A. Capa Salinas, S. D. Wilson, B. Yan, L. Wu, Coherent phonon pairs and rotational symmetry breaking of charge density wave order in the kagome superconductor CsV_3Sb_5 , *Phys. Rev. B*, **112**, 125127 (2025) [\[URL\]](#)
- 127.** M. I. Mondal, A. P. Sakhya, M. Sprague, **B. R. Ortiz**, M. Matzelle, A. K. Kumay, A. Seal, B. Ghosh, A. Bansil, M. Neupane, Observation of multiple flat bands and van Hove singularities in the distorted kagome metal NdTi_3Bi_4 , *Phys. Rev. B*, **112**, L121104 (2025) [\[URL\]](#)
- 126.** X. Wang, A. P. Reyes, H. Banerjee, A. N. Capa Salinas, S. D. Wilson, **B. R. Ortiz**, ^{51}V NMR evidence for interlayer-modulated charge order and a first-order low-temperature transition in CsV_3Sb_5 , *Phys. Rev. B*, **112**, 235123 (2025) [\[URL\]](#)
- 125.** G. Pokharel, C. Zhang, E. Redekop, **B. R. Ortiz**, A. N. Capa Salinas, S. Schwarz, S. J. Gomez Alvarado, S. Sarker, A. F. Young, S. D. Wilson, Evolution of charge correlations in the hole-doped kagome superconductor $\text{CsV}_{3-x}\text{Ti}_x\text{Sb}_5$, *Phys. Rev. Mater.*, **9**, 094805 (2025) [\[URL\]](#)
- 124.** Y. Luo, J. A. M. Paddison, **B. R. Ortiz**, M. Knudtson, S. D. Wilson, J. Liu, B. A. Frandsen, S. A. Chen, M. Frontzek, A. Podlesnyak, *et al.*, Disorder-induced proximate quantum spin ice phase in $\text{Pr}_2\text{Sn}_2\text{O}_7$, *arXiv* (2025) [\[URL\]](#)
- 123.** T. Kongruengkit, A. N. Salinas, G. Pokharel, **B. R. Ortiz**, S. D. Wilson, J. W. Harter, Persistence of charge density wave fluctuations in the absence of long-range order in a hole-doped kagome metal, *arXiv* (2025) [\[URL\]](#)
- 122.** **B. R. Ortiz**, H. Zhang, K. Gornicka, M. S. Cook, S. Sarker, S. Okamoto, J. Yan, Isolated spin ladders in $\text{Ln}_2\text{Ti}_9\text{Sb}_{11}$ (Ln: La–Nd) metals, *Phys. Rev. Mater.*, **9**, 086203 (2025) [\[URL\]](#)
- 121.** W. R. Meier, D. E. Graf, **B. R. Ortiz**, S. Mozaffari, D. Mandrus, Pressure suppresses the density wave order in kagome metal LuNb_6Sn_6 , *Phys. Rev. Mater.*, **9**, L082001 (2025) [\[URL\]](#)
- 120.** T. Nagashima, K. Ishihara, Y. Yamakawa, F. Chen, K. Imamura, M. Roppongi, R. Grasset, M. Konczykowski, **B. R. Ortiz**, A. Capa Salinas, *et al.*, Impact of charge-density-wave pattern on the superconducting gap in vanadium-based kagome superconductors, *Commun. Phys.*, **8**, 303 (2025) [\[URL\]](#)
- 119.** K. Gornicka, **B. R. Ortiz**, H. Zhang, A. D. Christianson, A. F. May, Anisotropic magnetic behavior of Nd_3ScBi_5 and Pr_3ScBi_5 single crystals, *Phys. Rev. Mater.*, **9**, 064414 (2025) [\[URL\]](#)
- 118.** P. Park, **B. R. Ortiz**, M. Sprague, A. P. Sakhya, S. A. Chen, M. D. Frontzek, W. Tian, R. Sibille,

- D. G. Mazzone, C. Tabata, *et al.*, Spin density wave and van Hove singularity in the kagome metal CeTi_3Bi_4 , *Nat. Commun.*, **16**, 4384 (2025) [\[URL\]](#)
- 117.** Q. Deng, H. Tan, **B. R. Ortiz**, S. D. Wilson, B. Yan, L. Wu, Revealing rotational symmetry breaking charge density wave order in the kagome superconductor $(\text{Rb}, \text{K})\text{V}_3\text{Sb}_5$ by ultrafast pump-probe experiments, *Phys. Rev. B*, **111**, 165134 (2025) [\[URL\]](#)
- 116.** Y. Wang, H. Li, S. Cheng, H. Zhao, **B. R. Ortiz**, A. Capa Salinas, S. D. Wilson, Z. Wang, I. Zeljkovic, Interplay of nanoscale strain and smectic susceptibility in kagome superconductors, *Phys. Rev. X*, **15**, 021074 (2025) [\[URL\]](#)
- 115.** S. Liu, M. Roppongi, M. Kimata, K. Ishihara, R. Grasset, M. Konczykowski, **B. R. Ortiz**, S. D. Wilson, K. Yoshimi, T. Shibauchi, *et al.*, Impact of tiny Fermi pockets with extremely high mobility on the Hall anomaly in the kagome metal CsV_3Sb_5 , *arXiv* (2025) [\[URL\]](#)
- 114.** A. P. Sakhya, **B. R. Ortiz**, B. Ghosh, M. Sprague, M. I. Mondal, M. Matzelle, N. Atlam, A. K. Kumay, D. G. Mandrus, J. D. Denlinger, *et al.*, Diverse electronic topography in a distorted kagome metal LaTi_3Bi_4 , *arXiv* (2025) [\[URL\]](#)
- 113.** G. Scharf, A. Ner Gaon, P. M. Sarte, **B. R. Ortiz**, S. D. Wilson, A. Ron, Light-induced ferromagnetism above the Curie temperature in CrGeTe_3 , *Phys. Rev. B*, **111**, L100408 (2025) [\[URL\]](#)
- 112.** F. Mazzola, W. Brzezicki, C. Bigi, A. Consiglio, L. J. D’Onofrio, M. T. Mercaldo, A. Klosinski, F. Bertran, P. Le Fevre, O. J. Clark, *et al.*, Anomalous spin-optical helical effect in Ti-based kagome metal, *arXiv* (2025) [\[URL\]](#)
- 111.** N. Sharma, J. McKenzie, M. Toole, **B. R. Ortiz**, A. Capa Salinas, S. D. Wilson, X. Liu, Deriving material properties from feedback error signals in scanning tunneling microscopy, *Nano Lett.*, **25**, 3309–3315 (2025) [\[URL\]](#)
- 110.** **B. R. Ortiz**, W. R. Meier, G. Pokharel, J. Chamorro, F. Yang, S. Mozaffari, A. Thaler, S. J. Gomez Alvarado, H. Zhang, D. S. Parker, *et al.*, Stability frontiers in the AM_6X_6 kagome metals: The LnNb_6Sn_6 (Ln: Ce–Lu, Y) family and density-wave transition in LuNb_6Sn_6 , *J. Am. Chem. Soc.*, **147**, 5279–5292 (2025) [\[URL\]](#)
- 109.** A. F. May, C. Tabata, S. Okamoto, **B. R. Ortiz**, A. D. Christianson, J. Yan, K. Kaneko, M. A. McGuire, Physical properties of intergrowth compound $\text{Eu}_2\text{CuZn}_2\text{P}_3$, *Phys. Rev. Mater.*, **9**, 024406 (2025) [\[URL\]](#)
- 108.** A. H. Avidor, **B. R. Ortiz**, P. M. Sarte, Q. Zhang, S. D. Wilson, Impurity-induced moment freezing in $\text{NaFe}_x\text{Ru}_{1-x}\text{O}_2$, *Phys. Rev. Mater.*, **9**, 024404 (2025) [\[URL\]](#)
- 107.** G. Scharf, D. Guterding, B. Hen, P. M. Sarte, **B. R. Ortiz**, G. Kh. Rozenberg, T. Holder, S. D. Wilson, H. O. Jeschke, A. Ron, Pressure tuning of intrinsic and extrinsic sources to the anomalous Hall effect in CrGeTe_3 , *Phys. Rev. Research*, **7**, 013127 (2025) [\[URL\]](#)
- 106.** K. Shtefienko, C. Phillips, **B. R. Ortiz**, D. E. Graf, K. Shrestha, Electronic structure of the kagome metal YbTi_3Bi_4 studied using torque magnetometry, *Phys. Rev. B*, **111**, 035145 (2025) [\[URL\]](#)
- 105.** E. M. Clements, D. Ovchinnikov, P. R. Raghuvanshi, V. R. Cooper, S. Okamoto, A. D. Christianson, J. A. M. Paddison, **B. R. Ortiz**, S. Calder, A. F. May, *et al.*, MnRhBi_3 : A cleavable antiferromagnetic metal, *Chem. Mater.*, **36**, 11306–11316 (2024) [\[URL\]](#)
- 104.** A. P. Sakhya, **B. R. Ortiz**, B. Ghosh, M. Sprague, M. I. Mondal, M. Matzelle, I. B. Elius, N. Valadez, D. G. Mandrus, A. Bansil, *et al.*, Diverse electronic landscape of the kagome metal YbTi_3Bi_4 , *Commun. Mater.*, **5**, 241 (2024) [\[URL\]](#)
- 103.** K. Gornicka, **B. R. Ortiz**, A. D. Christianson, A. F. May, Anisotropic magnetism of polymorphic ErAl_3 , *Phys. Rev. Mater.*, **8**, 114412 (2024) [\[URL\]](#)
- 102.** C. Bigi, M. D’Arrigo, L. Klebl, A. Consiglio, G. Pokharel, F. Bertran, P. Le Fevre, T. Jaouen, H. C. Tchouekem, P. Turban, A. De Vita, J. A. Miwa, J. W. Wells, D. Oh, R. Comin, R. Thomale, I. Zeljkovic, **B. R. Ortiz**, S. D. Wilson, G. Sangiovanni, F. Mazzola, D. Di Sante, Pomeranchuk instability from electronic correlations in CsTi_3Bi_5 kagome metal, *arXiv* (2024) [\[URL\]](#)
- 101.** S. J. Gomez Alvarado, G. Pokharel, **B. R. Ortiz**, J. A. M. Paddison, S. Sarker, J. P. C. Ruff,

- S. D. Wilson, Frustrated Ising charge correlations in the kagome metal ScV_6Sn_6 , *Phys. Rev. B*, **110**, L140304 (2024) [\[URL\]](#)
- 100.** B. R. Ortiz, H. Zhang, K. Gornicka, D. S. Parker, G. D. Samolyuk, F. Yang, H. Miao, Q. Lu, R. G. Moore, A. F. May, *et al.*, Intricate magnetic landscape in antiferromagnetic kagome metal TbTi_3Bi_4 and interplay with $\text{Ln}_{2-x}\text{Ti}_{6+x}\text{Bi}_9$ (Ln: Tb ··· Lu) shurikagome metals, *Chem. Mater.*, **36**, 8002–8014 (2024) [\[URL\]](#)
- 99.** A. F. May, E. M. Clements, X. Wang, H. Zhang, B. R. Ortiz, Crystal growth and evolution of magnetism in the EuCuP – EuCuAs solid solution, *Phys. Rev. Mater.*, **8**, 084410 (2024) [\[URL\]](#)
- 98.** Y. Xing, S. Bae, E. Ritz, F. Yang, T. Birol, A. N. Capa Salinas, B. R. Ortiz, S. D. Wilson, Z. Wang, R. M. Fernandes, *et al.*, Optical manipulation of the charge-density-wave state in RbV_3Sb_5 , *Nature*, **631**, 60–66 (2024) [\[URL\]](#)
- 97.** H. Shiravi, A. Gupta, B. R. Ortiz, S. Cui, B. Yu, E. Uykur, A. A. Tsirlin, S. D. Wilson, Z. Sun, G. X. Ni, Plasmons in the Kagome metal CsV_3Sb_5 , *Nat. Commun.*, **15**, 5389 (2024) [\[URL\]](#)
- 96.** J. Wang, C. Farhang, B. R. Ortiz, S. D. Wilson, J. Xia, Resolving the discrepancy between MOKE measurements at 1550-nm wavelength on kagome metal, *Phys. Rev. Mater.*, (2024) [\[URL\]](#)
- 95.** S. D. Wilson, B. R. Ortiz, $\text{A V}_3\text{Sb}_5$ kagome superconductors, *Nat. Rev. Mater.*, **9**, 420–432 (2024) [\[URL\]](#)
- 94.** M. I. Mondal, A. P. Sakhya, M. Sprague, B. R. Ortiz, M. Matzelle, B. Ghosh, N. Valadez, I. B. Elius, A. Bansil, M. Neupane, Observation of multiple van Hove singularities and correlated electronic states in a new topological ferromagnetic kagome metal NdTi_3Bi_4 *arXiv:2311.11488*, (2023)
- 93.** H. Li, S. Cheng, B. R. Ortiz, H. Tan, D. Werhahn, K. Zeng, D. Johrendt, B. Yan, Z. Wang, S. D. Wilson, I. Zeljkovic, Electronic nematicity without charge density waves in titanium-based kagome metal, *Nat. Phys.*, (2023) [\[URL\]](#)
- 93.** B. R. Ortiz, P. M. Sarte, G. Pokharel, M. J. Knudston, S. J. Gomez Alvarado, A. F. May, S. Calder, L. Mangin-Thro, A. R. Wildes, H. Zhou, G. Sala, C. R. Wiebe, S. D. Wilson, J. AM. Paddison, A. A. Aczel, Revisiting spin ice physics in the ferromagnetic Ising pyrochlore $\text{Pr}_2\text{Sn}_2\text{O}_7$, *arXiv:2310.16180*, (2023)
- 91.** A. N. Capa Salinas, B. R. Ortiz, C. Bales, J. Frassinetti, V. F. Mitrovic, S. D. Wilson, Electron-hole asymmetry in the phase diagram of carrier-tuned CsV_3Sb_5 , *Front. Electron. Mater.*, (2023) [\[URL\]](#)
- 90.** G. Pokharel, B. R. Ortiz, L. Kautzsch, S. J. Alvarado Gomez, K. Mallayya, G. Wu, E.-A. Kim, J. PC. Ruff, S. Sarker, S. D. Wilson, Frustrated charge order and cooperative distortions in ScV_6Sn_6 , *Phys. Rev. Mater.*, (2023) [\[URL\]](#)
- 89.** T. Asaba, A. Onishi, Y. Kageyama, T. Kiyosue, K. Ohtsuka, S. Suetsugu, Y. Kohsaka, T. Gaggli, Y. Kasahara, H. Murayama, K. Hashimoto, R. Tazai, H. Kontani, B. R. Ortiz, S. D. Wilson, Q. Li, H.-H. Wen, T. Shibauchi, Y. Matsuda, Evidence for an odd-parity nematic phase above the charge-density-wave transition in a kagome metal, *Nat. Phys.*, (2024) [\[URL\]](#)
- 88.** A. P. Sakhya, B. R. Ortiz, B. Ghosh, M. Sprague, M. I. Mondal, M. Matzelle, I. B. Elius, N. Valadez, D. G. Mandrus, A. Bansil, M. Neupane, Observation of multiple flat bands and topological Dirac states in a new titanium based slightly distorted kagome metal YbTi_3Bi_4 , *arXiv:2309.01176*, (2023)
- 87.** B. R. Ortiz, H. Miao, D. S. Parker, F. Yang, G. D. Samolyuk, E. M. Clements, A. Rajapitamahuni, T. Yilmaz, E. Elio Vescovo, J. Yan, A. F. May, M. A McGuire, Evolution of Highly Anisotropic Magnetism in the Titanium-Based Kagome Metals LnTi_3Bi_4 (Ln: $\text{La}^{\cdot\cdot\cdot}\text{Gd}^{3+}$, Eu^{2+} , Yb^{2+}), *Chem. Mater.*, (2023) [\[URL\]](#)
- 86.** M. Wenzel, A. A. Tsirlin, F. Capitani, Y. T. Chan, B. R. Ortiz, S. D. Wilson, M. Dressel, E. Uykur, Pressure evolution of electron dynamics in the superconducting kagome metal CsV_3Sb_5 , *NPJ Quantum Mater.*, (2023) [\[URL\]](#)
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