Curriculum Vitae

SEUNG-HUN LEE

Contact Information

University of Virginia, Department of Physics, 382 McCormick Road, Charlottesville, VA 22904. Phone: (434) 924-7959; Fax: (434) 982-4576; Email: shlee@virginia.edu

Employment

2014-Present	Commonwealth Professor of Physics, University of Virginia
2018 Winter	Visiting Professor, KEK, Japan
2009-2014	Professor of Physics, University of Virginia
2005-2009	Associate Professor of Physics, University of Virginia
2015 Summer	Visiting Professor, University of Tohoku, Japan
2010 Summer	Visiting Professor, Institute for Solid State Physics, University of Tokyo, Japan
2009 Summer	Visiting Professor, The WPI-AIMR, Tohoku University, Japan
2007-2008	Adjunct Professor, Department of Physics, Korea University, Korea
2005 Summer	Visiting Associate Professor, IFCAM, Tohoku University, Japan
2002-2005	Staff Physicist, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland
1996-2002	Instrument Scientist at NIST. Mentors: C. Majkrzak, G. Shirane, C. Broholm
1989-1996	Research Assistant, Department of Physics, Johns Hopkins University
1988-1989	Lecturer, Department of Physics, Korea University
1987-1988	Second Lieutenant in Korean Army, Korea
1985-1987	Research Assistant, Department of Physics, Korea University

Education

Ph.D.	Physics, Johns Hopkins University, 02/1996 Adviser: Collin Broholm
M.S.	Physics (with Condensed Matter Physics focus), Johns Hopkins University, 12/1990
M.S.	Physics (with Particle Physics focus), Korea University, Seoul, Korea, 02/1987
B.S.	Physics, Korea University, Seoul, Korea, 02/1985

Honors and Awards

2013	Fellow, American Physical Society
2008	Science Prize from the Neutron Scattering Society of America
2004	Young Scientist Award for Excellence in Scientific Research from SigmaXi NIST Chapter
2002	The Outstanding Young Researcher Award from the Association of Korean Physicists in America
1981-1985	Korea University Ahn-Ahm Full Scholarship

Professional Activities

2013-2022	Member, Neutron Science Proposal Review Committee (NSPRC) and Proposal Evaluation Committee of J-Parc, Japan
2015-2017	President of the Association of Korean Physicists in America
2013-2015	President-elect and Vice-President of the Association of Korean Physicists in America
2013-2016	Member, Science Review Committee for Time-of-Flight Spectroscopy, Spallation Neutron Source
2013-2014	Member, Hard Condensed Matter Program Committee, for the American Conference on Neutron Scattering that will be held in Knoxville, TN, from June 1-5, 2014
2012-2013	- The Chapter President of the Korean Scientists and Engineers in America (KSEA) Central Virginia Chapter
2012	- Advisory committee member for the Materials Science Week 2012 meeting, to be held on November 25 – December 1, 2012, at the Institute for Materials Research, University of Tohoku, Sendai Japan - Co-lecturer for a Multi-University Online Graduate Course, *Neutron Scattering in Quantum Condensed Matter Physics* (http://jins.tennessee.edu/course2012/index.html) Gave two lectures on Group theory and Magnetic structure for the course
2011	- Co-organizer of the Forum on Inelastic Neutron Scattering (FINS 2011), Spallation Neutron Source (SNS), ORNL
2010-2012	- Member of Program Committee, International Conference on Magnetism (ICM 2012).
2009-2012	- An executive committee member of the Spallation Neutron Source-High Flux Isotope Reactor User Group (SHUG) that represents neutron scattering users at the Oak-Ridge National Laboratory neutron facilities
2010	- Member of the Beam Time Allocation Committee for the NIST Center for Neutron Research, USA
2009-2010	- A co-organizer of the International Conference on Highly Frustrated Magnetism (HFM2010) that will be held in August, 2010.
2008	- Member of the Beam Time Allocation Committee for the NIST Center for Neutron Research, USA - International Program Advisory Committee member for the Seventh International Workshop on Polarized Neutrons in Condensed Matter Investigations (PNCMI2008), JAERI, Japan.
2007	- Co-organizer of the ``1st Korea University – KAERI Joing International Workshop on Condensed Matter Physics and Neutron Scattering", December. - One month Summer Visiting Scholar, Korea Atomic Energy Institute, Korea
2006-2010	Member of the International Scientific Advisory Committee for the VINS (Versatile Inelastic Neutron Spectrometer) Project by University of Tokyo for the J-PARC (Japan Proton Accelerator Research Complex)
2005-2007	- Summer visitor, National Institute of Standards and Technology
2005	- Visiting Professor, IFCAM, Tohoku University, Sendai, Japan - Member of a DOE Program Review Committee of the SING (Spallation Neutron Source Instruments: Next Generation) project for SNS

2004-2010	- Member of the International PAC for the Triple-Axis Neutron Scattering Project at HANARO, Korean Atomic Energy Research Institute (KAERI), Korea
2002-2006	- Member of LANSCE Materials Program Advisory Committee, Los Alamos Neutron Science Center
2003	- Co-organizer of the ``International Workshop on Theory, Modeling and Neutron Scattering", (August 12-14, 2003), at the NIST Center for Neutron Research, Gaithersburg, MD
1997-Present	- Editorial Consultant: Science, Nature Physics, Nature Materials, Nature Communications, Physical Review Letters, Physical Review B, Europhysics Letters, Journal of Applied Physics, Journal of Physics: Condensed Matter.

Graduate Students

Haritha Sindhu Rajeev 2nd year student

Xiao Hu	Ph.D. in Physics, 2021, Postdoctoral Fellow at the Brookhaven National Laboratory, NY
Depei Zhang	Ph.D. in Physics, 2020, Postdoctoral Fellow at the Oak Ridge National Laboratory, TN
Tianran Chen	Ph.D. in Physics, 2018, Postdoctoral Fellow at the National Institute of Standards and Technology, Gaithersburg, MD
Anjana Samarakoon	Ph.D. in Physics, 2017, Postdoctoral Fellow at the Oak Ridge National Laboratory, TN
Sachith Dissanayake	Ph.D. in Physics, 2015, Postdoctoral Fellow at Duke University, NC
Jooseop Lee	Ph.D. in Physics, 2013, Faculty of CALDES, IBS, Korea
Junghwa Kim	Ph.D. in Physics, 2009, Scientific Staff at the Samsung Research Laboratory, Korea

Undergraduate Students

Chris Hong	B.S. in Physics, 2015. Now in PhD program at Univ. of Virginia
Yuehaw Khoo	B.S. in Physics, 2009. Completed PhD study at Princeton, now postdoctoral fellow at Stanford
Thiparat Chotibut	B.S. in Physics, 2008 and M.S. in Math, 2009. Completed PhD study in Physics at Harvard, now postdoctoral fellow at Singapore University of Tech. and Design

Postdoctoral Fellows

Dr. Kazuki Iida	2010-2012, now Staff Physicist at J-PARC
Dr. Naoyuki Katayama	2009-2011, now Associate Professor at Nagoya University
Dr. Sungdae Ji	2007-2010, now Staff Physicist at POSTECH, Korea
Dr. Maiko Kofu	2006-2009, UVA, now Staff Physicist at J-PARC
Dr. Jaeho Chung	2004-2005, now Professor at Korea University
Dr. William Ratcliff	2003-2005, now Staff Physicist at NIST
Dr. Sungil Park	2001-2004, now Staff Physicist at KAERI, Korea

Courses taught

2005 Fall	PHYS321	Classical Mechanics (Textbook: Marion/Thornton)
2006 Spring	PHYS562	Introduction to Solid State Physics (Textbook: Ashcroft/Mermin)
2006 Fall	PHYS321	Classical Mechanics (Textbook: Marion/Thornton)
2007 Spring	PHYS562	Introduction to Solid State Physics (Textbook: Ashcroft/Mermin)
2007 Fall	PHYS321	Classical Mechanics (Textbook: Marion/Thornton)
2008 Spring	PHYS562	Introduction to Solid State Physics (Textbook: Ashcroft/Mermin)
2008 Fall	PHYS562	Introduction to Solid State Physics (Textbook: Ashcroft/Mermin)
2009 Spring	PHYS861	Solid State Physics I (Textbook: Doniach/Sondheimer)
2009 Fall	PHYS1427	Introduction to Physics, Rodman Scholars (Textbook: Holliday/Resnick)
2010 Spring	PHYS861	Solid State Physics I (Textbook: Dresselhaus)
2011 Spring	PHYS861	Solid State Physics I (Textbook: Dresselhaus)
2011 Fall	PHYS861	Solid State Physics I (Textbook: Dresselhaus)
2012 Spring	PAVS4500	Science and Politics, Pavilion Advanced Undergraduate Seminar
2012 Fall	PHYS5620	Solid State Physics I (Textbook: Ashcroft/Mermin)
2012 Fall	QCMP	Gave two lectures on Group theory and Magnetic structure for a Multi-University Online Graduate Course, *Neutron Scattering in Quantum Condensed Matter Physics* (http://jins.tennessee.edu/course2012/index.html)
2013 Spring	PAVS4500	Science and Politics, Pavilion Advanced Undergraduate Seminar
2013 Fall	PHYS5620	Solid State Physics I (Textbook: Ashcroft/Mermin)
2014 Spring	PAVS4500	Science and Politics, Pavilion Advanced Undergraduate Seminar
2014 Fall	PHYS3210	Classical Mechanics (Textbook: Taylor)
2015 Spring	PHYS8610	Condensed Matter Theory I (Textbook: Dresselhaus)
2015 Fall	PHYS3210	Classical Mechanics (Textbook: Taylor)
2016 Spring	PAVS4500	Science and Politics, Pavilion Advanced Undergraduate Seminar
2017 Fall	PAVS4500	Science and Politics, Pavilion Advanced Undergraduate Seminar
2018 Spring	PHYS5559	Discrete Group Theory
2018 Fall	PAVS4500	Science and Politics, Pavilion Advanced Undergraduate Seminar
2019 Spring	PHYS5559	Discrete Group Theory
2019 Fall	PHYS5620	Solid State Physics I (Textbook: Ashcroft/Mermin)
2020 Fall	PHYS5620	Solid State Physics I (Textbook: Ashcroft/Mermin)
2021 Spring	PHYS5559	Discrete Group Theory
2021 Fall	PHYS5620	Solid State Physics I (Textbook: Ashcroft/Mermin)

Current Research Interests

Experimental condensed matter physics using neutron and X-ray scattering. Focus on novel magnetic properties of strongly correlated electron systems, especially the systems that fail to develop static long range order despite strong interactions due to intrinsic effects. The systems of interest include geometrically frustrated magnets, magnetic molecules, doped antiferromagnets, heavy fermion systems, and superconductors. Exotic states, novel phase transitions, and interplay between spin, charge and orbital degrees of freedom in those systems are my focus. Recently, my group is also working to understand the physics of new solar cell perovskites.

Total Number of Publications (as of October 2021): 140

Total Number of Citations (as of October 2021): 7651 in Web of Science (10018 in Google Scholar)

h-Index (as of October 2021): 46 in Web of Science (54 in Google Scholar)

Invited talks

2021 - "*Toward a spin jam theory"*, Korea Advanced Institute of Science and Technology (KAIST), June 28, 2021
- "*Toward a spin jam theory"*, Institute for Basic Science (IBS) Center for Theoretical Physics of Complex Systems (PCS), July 6, 2021

2020 - "*Role of Organic Molecules in Organic-Inorganic Solar Cell Perovskites"*, Joint Science Session of the 20th Annual Meeting of Japanese Society for Neutron Science and the Society of Muon and Meson Science of Japan, November 10, 2020.

2019 - "*Role of Organic Molecules in Organic-Inorganic Solar Cell Perovskites"*, Physics Department, Yonsei University, Seoul, Korea, July 17, 2019.
- "*Role of Organic Molecules in Organic-Inorganic Solar Cell Perovskites"*, Physics Department, Korea University, Seoul, Korea, July 24, 2019.
- "*Scaling of Memories and Crossovers in Glassy Magnets"*, J-PARC, Japan Atomic Energy Agency, Tokai, Japan, July 29, 2019.
- "*Role of Organic Molecules in Organic-Inorganic Solar Cell Perovskites"*, Department of Advanced Materials Science, University of Tokyo, Kashiwa, Japan, July 31, 2019.
- "*Role of Organic Molecules in Organic-Inorganic Solar Cell Perovskites"*, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan, August 2, 2019.

2018 - "*Origin of Photovoltaic Properties of Organic-Inorganic Lead Iodide Perovskites*", CMRC mini-Workshop on Hybrid organic-inorganic perovskites (HOIPs) probed by quantum beams, KEK-Tokai campus, December 26, 2018.
- "*Origin of Photovoltaic Properties of Organic-Inorganic Lead Iodide Perovskites*", Seminar, Korea Atomic Energy Research Institute, Daejeon, Korea, July 5, 2018
- "*Origin of Photovoltaic Properties of Organic-Inorganic Lead Iodide Perovskites*", Department Colloquium, Seoul City University, Seoul, Korea, July 3, 2018
- "*Origin of Photovoltaic Properties of Organic-Inorganic Lead Iodide Perovskites*", Condensed Matter Seminar, Kyunghee University, Seoul, Korea, July 2, 2018
- "*Scaling of Memories and Crossovers in Glassy Magnets*", International Conference on Quantum Complex Matter, Rome, Italy, June 11-15, 2018
- "*Origin of Long Lifetime of Band-Edge Charge Carriers in Organic-Inorganic Lead Iodide Perovskites*", condensed matter seminar, J-PARC, Tokai, Japan, January 23.
- "*Origin of Long Lifetime of Band-Edge Charge Carriers in Organic-Inorganic Lead Iodide Perovskites*", Department Colloquium, Department of Physics, University of Maryland, College Park, MD, January 30, 2018.
- "*Origin of Long Lifetime of Band-Edge Charge Carriers in Organic- Inorganic Lead Iodide Perovskites*", condensed matter seminar, National Taiwan University, Taipei, Taiwan, January 8, 2018.

2017 - "*Comments on Origin of Long Lifetime of Band-Edge Charge Carriers in Organic-Inorganic Lead Iodide Perovskites*", the International Conference on Neutron Scattering, Daejeon, South Korea, July 9-13.
- "*Origin of Long Lifetime of Band-Edge Charge Carriers in Organic-Inorganic Lead Iodide Perovskites*", Samsung Advanced Institute of Technology / Samsung Electronics Co., Ltd., Suwon, South Korea, July 6.

2016 - "*Role of organic cations in organic-inorganic perovskite solar cells*", DOE Neutron Scattering Principal Investigators' Meeting, Gaithersburg, Maryland, December 19-21.
- "*Energy landscapes and memories of magnetic glassy states*", the 8th International Conference on Highly Frustrated Magnetism, Taipei, Taiwan, September 7-11.
- "*Crystal structure and rotational dynamics of organic cations in organic-inorganic solar cell perovskites*", Seminar at the Centre for Condensed Matter Sciences, National Taiwan University, September 8.
- "*Science and Humanity*", seminar for the meeting of Engineers and Scientists for Change, Korea University, August 11.
- "*Low energy neutron spectroscopy and group theory for solar cell research*", Department of Physics, Beijing Normal University, August 3.
- "*Crystal structure and rotational dynamics of organic cations in organic-inorganic solar cell perovskites*", Oak Ridge National Laboratory, Oak Ridge, May 24.
- "*Low energy neutron spectroscopy and group theory for solar cell research*", National Science Foundation Directors' CHRNS Review, National Institute of Standards and Technology Center for Neutron Research, Gaithersburg, Maryland, April 4, 2016.
- "*Love triangles*, *quantum fluctuations and spin jam*", American Physical Society March Meeting, Baltimore, March 14-18.
- "*Love triangles, quantum fluctuations and spin jam*", Topological Phenomena in Novel Quantum Matter, MPI-Dresden, Germany, Feb. 29 - Mar. 4, 2016.

2015 - "*Love triangles*, *quantum fluctuations and spin jam*", Seminar at the Oak Ridge National Laboratory, December 11.
- "*Love triangles*, *quantum fluctuations and spin jam*", Seminar at the Department of Physics, University of Florida, October 5.
- "*Love triangles*, *quantum fluctuations and spin jam*", Colloquium at the Department of Physics, Univ. of Virginia, September 11.
- "*Spin liquid and spin jam*", Colloquium at the Department of Physics and Astronomy, Univ. of Tennessee, August 31.
- "A *spin jam state in a frustrated magnet*", Seminar at University of Tokyo, Japan, June.
- "A *spin jam state in a frustrated magnet*", Seminar at Waseda University, Japan, June.
- "A *spin jam state in a frustrated magnet*", Seminar at Tohoku University, Japan, June.
- "*Spin jam states in frustrated magnet*", Invited talk at the conference 'Superstripes 2015', Ischia, Italy, June 13 - 18.
- "*Spin jam state in a disorder-free frustrated magnet",* at the workshop 'Unifying Concepts in Glass Physics', Aspen Center for Physics, Aspen, CO, Feb 1 - 7.

2014 - "*Spin jam state in a disorder-free frustrated magnet*", Invited talk at the Workshop, Quantum spin dynamics: from exotic excitations to novel transport and non-equilibrium phenomena, Max-Planck-Institute, Dresden, Germany, September 1-5.
- "*Spin jam in a frustrated magnet*", Seoul National University, Condensed Matter Physics Seminar, July 7.
- "*Spin jam state in a disorder-free frustrated magnet*", Seminar, University of Tokyo, Kashiwa, Japan, July 31, 2014.
- "*Spin jam in a frustrated magnet*", Hong Kong University of Science and Technology, Condensed Matter Physics Seminar, June 30.

- "*Glassiness and exotic entropy scaling induced by quantum fluctuations in a disorder-free frustrated magnet*", Invited talk during one week visit for the 'Modern Trends in Quantum Magnetism' program at the Aspen Center for Physics, May 25 - June 1.
- "*Glassiness and exotic entropy scaling induced by quantum fluctuations in a disorder-free frustrated magnet*", University of Chicago, Condensed Matter Physics Seminar, May 8.

2013 - "*Exotic states in frustrated magnets*", 2 lectures in the Princeton Summer School on Condensed Matter Physics, Princeton University, Princeton, NJ, August 5-8, 2013.
- "*Topological spin glass state of a frustrated magnet*", American Physical Society Annual March Meeting, Baltimore, MD, March 18-22, 2013.

2012 - "*Topological spin glass state of a frustrated magnet*", Materials Science Week 2012, Institute for Materials Research, University of Tohoku, Sendai, Japan, November 27-December 1.
- "*Introduction to inelastic neutron scattering on magnetic and lattice dynamics*", The 9th Material Science School for Young Researchers, Neutron Center at Tohoku University, Sendai, Japan, November 26.
- "*Topological spin glass state of a frustrated magnet*", Seminar during one-week visit to KITP, UCSB, Santa Barbara, CA, August 12-19.
- "*Spin liquid and glass states in frustrated magnets*", US-Korea Conference (UKC 2012) on Science and Technology, Los Angeles, CA, August 8-11.
- "*Playing a lego game for a quasi-two-dimensional frustrated magnet*", American Conference on Neutron Scattering (ACNS), Washington DC, June 24-28.
- "*Spin liquid and glass states in frustrated magnets*", Symposium on Special Topics in Physics, Arlington, TX, January 20-21.

2011 - "*Spin liquid and glass states in frustrated magnets*", Seminar at the Hong Kong University of Science and Technology, Hong Kong, December 13.
- "*Spin liquid and glass states in frustrated magnets*", Hong Kong Forum of Physics 2011, The University of Hong Kong, Hong Kong, December 14.
- "*Spin liquid and glass states in geometrically frustrated magnets*", 1st Asia-Oceania Conference on Neutron Scattering, Tsukuba, Japan, November 22, 2011.
- "*Spin liquid and glass states in frustrated magnets*", Institute of Physics, Beijing, August 9, 2011.
- *"Spin entanglements in two-dimensional magnetic systems*", Telluride Workshop on Competing Interactions and Colossal Responses in Transition Metal Compounds, Telluride, July 18-22.
- "*Debating the Physics and Politics of the Cheonan Incident*", the Association for Asian Studies (AAS) – International Convention of Asia Scholars (ICAS) Joint Conference, Honolulu, Hawaii, March 31-April 3.

2010 - *Hong Kong Forum of Physics 2010: Novel Quantum States and Methods*, Hong Kong, China, December 17-19.
- "*Inconsistencies in the Cheonan Report*", Foreign Correspondents' Club of Japan, Tokyo, Japan, July 9, 2010
- *APCTP-KIAS Workshop on Quantum Entanglement and Dynamics in Correlated Many-body systems,* APCTP, Pohang, Korea, May 17-21.
- *Workshop on High-Tc Cuprates and Fe-Superconductors,* IMR, Tohoku University, Sendai, Japan, August 9-11.
- *International HANARO Symposium on Research Reactor and Neutron Science – in Commemoration of the 15th Anniversary of HANARO,* Daejeon, Korea, November 1-2.

2009 - *American Crystallographic Association Meeting*, Toronto, Canada, July 25-30.
- *Workshop on Competing Interactions and Colossal Responses in Transition Metal Compounds,* Telluride, CO, August 10-14.
- *ESF-HFM Workshop on Topics in the Frustration of Pyrochlore Magnets*, Abingdon, UK, September 16-18.

2008 - *Quantum Magnetism Workshop*, University of Minnesota, Minneapolis, MN, May 2-4.
- *American Conference on Neutron Scattering,* Santa Fe, NM, May 11-15.
- *The 21st Congress of the International Union of Crystallography*, Osaka, Japan, August 23-31.
- *International Conference on Highly Frustrated Magnetism HFM 2008*, Braunschweig, Germany, September 7-12.
- *The 16th International Conference on Ternary and Multinary Compounds*, Technical University Berlin, Germany, September 15-19.

2007 - *KIAS Workshop on Quantum Magnetism,* Korea Institute for Advanced Study (KIAS), Seoul, Korea, December 17-20.
- *Conference on Moments and Multiplets in Mott Materials*, Kavli Institute of Theoretical Phyhsics, UC Santa Barbara, CA, September 10-14.
- *The 15th International Conference on Crystal Growth*, Salt Lake City, Utah, August 12-17.
- *Multiferroics II Workshop*, Univ. of Maryland, College Park, July 19.
- *American Physical Society Meeting*, Denver, Colorado, March 5-9.

2006 - *Highly Frustrated Magnetism*, Osaka, Japan, August 15-19.
- *Workshop on "Competing Interactions and Colossal Responses in Transition Metal Compounds"*, Telluride, CO, July 16-22.
- *American Conference on Neutron Scattering*, Chicago, IL, June 18-22.

2005 - *International Symposium on Research Reactor and Neutron Science*, Daejeon, Korea, April 11-13.

2004 - *International Symposium on Quantum Spin Systems*, Shonan Village Center, Japan, November 30 - December 3.
- *International Workshop on Frustrated Magnetism*, Long Island, New York, September 13-17.
- *Korean Physical Society Meeting*, Suwon, Korea, April.

2003 - *International Conference on Polarized Neutrons and Synchrotron X-rays for Magnetism*, Venice, Italy, August 4-6.
- *American Physical Society March Meeting*, Austin, Texas.

2002 - *The 50th Jubilee Meeting of the Korean Physical Society*, Seoul, Korea, October 22-26.
- *The 23rd International Conference on Low Temperature Physics (LT),* Hiroshima, Japan, August 20-27.
- *American Conference on Neutron Scattering*, Knoxville, TN, USA, June 23-27.

2000 - *American Physical Society March Meeting*, Minneapolis, Minnesota.

1999 - *Workshop on Exotic Oxides*, Brookhaven National Laboratory, NY, March.

1998 - *American Physical Society March Meeting*, Los Angeles, California.

Publications of S.-H. Lee

Patents

1. *Perovskite-Based Scintillator and Methods of Using the Same*, J. J. Choi, M. A. Alpert, S.-H. Lee, U.S. Patent Application No. PCT/US2020/028749, Filed on October 22, 2020.

2. *Scintillator and Method*, J. J. Choi, K. A. Dagnall, A. Conley, S.-H. Lee, U.S. Provisional Patent Application Serial No. 63/263,491, Filed on November 3, 2021.

Book and review articles

1. *Magnetic neutron scattering: and recent developments in the triple axis spectroscopy*, I. A. Zaliznyak and S.-H. Lee, a chapter in a book "Modern techniques for characterizing magnetic materials" ed. by Yimei, Z., Kluwer publishing co. (2004).
2. *Frustrated magnetism and cooperative phase transitions in spinels*, S.-H. Lee *et al*., an invited review article on Frustrated Magnetism, J. Phys. Soc. Jpn. **79**, 011004 (2010). [Time cited: 107]

Journals

1. *Organic Molecular Dynamics and Charge-carrier Lifetime in Lead Iodide Perovskite $MAPbI_3$*, A. Koda, H. Okabe, M. Hiraishi, R. Kadono, K. A. Dagnall, J. J. Choi , S.-H. Lee, Proc. Natl. Acad. Sci., to appear (2021).

2. *Freezing of a disorder induced spin liquid with strong quantum fluctuations*, X. Hu, D. M. Pajerowski, D. Zhang, A. A. Podlesnyak, Y. Qiu, Q. Huang, H. Zhou, I. Klich, A. I. Kolesnikov, M. B. Stone, S.-H. Lee, Phys. Rev. Lett. **127**, 017201 (2021).

3. *Memory effect and phase transition in a hierarchical trap model for spin glass,* D. Zhang, T. Chen, M. Vucelja, S.-H. Lee, G. W. Chern, Phys. Rev. E, to appear (2021).

4. *Spin dynamics of the antiferromagnetic Heisenberg model on a kagome bilayer,* P. Saha, D. Zhang, S.-H. Lee, G. W. Chern, Phys. Rev. B **103**, 224402 (2021).

5. *Temporally decoherent and spatially coherent vibrations in metal halide perovskites*, D. Zhang, M. Kofu, W.-L. Chen, A. Z. Chen, M. Yoon, C. M. Raghavan, T.-P. Chen, D. L. Abernathy, B. J. Foley, C. M. Brown, G. Xu, L. W. Harriger, R. Kajimoto, M. Nakamura, S. Ohira-Kawamura, C.-W. Chen, Y.-M. Chang, J. J. Choi, S.-H. Lee, Phys. Rev. B **102**, 224310 (2020). [Time cited: 1]

6. *Ultralow thermal conductivity of two-dimensional metal halide perovskites*, A. Giri, A. Z. Chen, A. Mattoni, K. Aryana, D. Zhang, X. Hu, S.-H. Lee, J. J. Choi, and P. Hopkins, Nano Letters **20**, 3331-3337 (2020). [Time cited: 19]

7. *Horizontal line nodes in Sr_2RuO_4 revealed by spin resonance*, K. Iida, M. Kofu, K. Suzuki, N. Murai, S. Ohira-Kawamura, R. Kajimoto, Y. Inamura, M. Ishikado, S. Hasegawa, T. Masuda, Y. Yoshida, K. Kakura, K. Machida, S.-H. Lee, J. Phys. Soc. Japan **89**(5), 053702 (2020). [Times cited: 7 in google scholar]

8. *Relationship between the nature of monovalent cations and charge recombination in metal halide perovskites*, K. A. Dagnall, B. J. Foley, S. A. Cuthriell, M. R. Alpert, X. Deng, A. Z. Chen, Z. Sun, M. C. Gupta, K. Xiao, S.-H. Lee, Y.-Z. Ma, J. J. Choi, Journal of Physical Chemistry Letters **3**, 1298-1304 (2020). [Time cited: 5]

9. *Crystal structure and rotational dynamics of a two-dimensional metal halide perovskite $(OA)_2PbI_4$*, X. Hu, D. Zhang, A. Z. Chen, E. N. Holmgren, Q. Zhang, D. M. Pajerowski, M. Yoon, G. Xu, J. J. Choi, S.-H. Lee, J. Chem. Phys. **152**, 014703 (2020). [Time cited: 3]

10. *Understanding the formation of vertical orientation in two-dimensional metal halide perovskite thin films,* A. Z. Chen, M. Shiu, X. Deng, M. Mahmoud, D. Zhang, B. J. Foley, S.-H. Lee, G. Giri, J. J. Choi, Chemistry of Materials **31**, 1336-1343 (2019). [Time cited: 41]

11. *Impact of Crystallographic Orientation Disorders on Electronic Heterogeneities in Metal Halide Perovskite Thin Films,* B. J. Foley, S. Cuthriell, S. Yazdi, A. Z. Chen, S. Guthrie, X. Deng, G. Giri, S.-H. Lee, K. Xiao, B. Doughty, Y-Z. Ma, J. J. Choi, Nano Lett. **18(10)**, 6271-6278 (2018). [Time cited: 17]

12. *Origin of vertical orientation in two-dimensional metal halide perovskites and its effect on photovoltaic performance,* A. Z. Chen, M. Shiu, J. H. Ma, M. R. Alpert, D. P. Zhang, B. J. Foley, D. M. Smilgies, S.-H. Lee, J. J. Choi, Nature Comm. **9**, 1336 (2018). [Time cited: 180]

13. *Scaling of memories and crossover in glassy magnets,* A.M. Samarakoon, M. Takahashi, D. Zhang, J. Yang, N. Katayama, R. Sinclair, H. D. Zhou, S. O. Diallo, G. Ehlers, D. A. Tennant, S. Wakimoto, K. Yamada, G-W. Chern, T.J. Sato, S.-H. Lee, Scientific Reports **7**, 12053 (2017). [Time cited: 12]

14. *Comprehensive study of the dynamics of a classical Kitaev spin liquid,* A.M. Samarakoon, A. Banerjee, S.-S. Zhang, Y. Kamiya, S. E. Nagler, D. A. Tennant, S.-H Lee and C. D. Batista, Phys. Rev. B **96**, 134408 (2017). [Time cited: 24]

15. *Origin of Long Lifetime of Band-Edge Charge Carriers in Organic-Inorganic Lead Iodide Perovskites,* Tianran Chen, Wei-Liang Chen, Benjamin J. Foley, Jooseop Lee, Jacob Ruff, J. Y. Peter Ko, Craig M. Brown, Leland W. Harriger, Depei Zhang, Changwon Park, Mina Yoon, Yu-Ming Chang, Joshua J. Choi, and Seung-Hun Lee, Proc. Natl. Acad. Sci. **114**, 7519-7524 (2017). [Time cited: 92 in google scholar]

16. *Entropy Driven Structural Transition and Kinetic Trapping in Formamidinium Lead Iodide Perovskite,* Tianran Chen, Benjamin J. Foley, Changwon Park, Craig M. Brown, Leland W.

Harriger, Jooseop Lee, Jacob Ruff, Mina Yoon, Joshua J. Choi, and Seung-Hun Lee, Science Advances **2**, e1601650 (2016). [Time cited: 109]

17. *Aging, memory, and nonhierarchical energy landscape of spin jam,* A.M. Samarakoon, T.J. Sato, T. Chen, G-W. Chern, J. Yang, I. Klich, R. Sinclair, H.D. Zhou, S.-H. Lee, Proc. Natl. Acad. Sci. **113**, 11806-11810 (2016). [Time cited: 25 in google scholar]

18. *Glassy behavior and isolated spin dimers in a new frustrated magnet* $BaCr_{9p}Ga_{12-9p}O_{19}$, J. Yang, A.M. Samarakoon, K.W. Hong, J.R.D. Copley, Q. Huang, A. Tennant, T.J. Sato, S.-H. Lee, J. Phys. Soc. Jpn. **85**, 094712 (2016). [Time cited: 2]

19. *Magnetism and magnetoelectricity in the polar axis* α-$Cu_2V_2O_7$, Y.-W. Lee, T.-H. Jang, S. E. Dissanayake, S.-H. Lee, Y.H. Jeong, Europhys. Lett. **113**, 27007 (2016). [Time cited: 14]

20. *Orbital glass state of the nearly metallic spinel cobalt vanadate,* R. Koborinai, S. E. Dissanayake, M. Reehuis, M. Matsuda, T. Kajita, H. Kuwahara, S.-H. Lee, T. Katsufuji, Phys. Rev. Lett. **116**, 037201 (2016). [Time cited: 20]

21. *Rotational dynamics of organic cations in* $CH_3NH_3PbI_3$, T. Chen, B. J. Foley, B. Ipek, M. Tyagi, J.R.D. Copley, C. M. Brown, J. J. Choi, S.-H. Lee, Phys. Chem. Chem. Phys. **17**, 31278-31286 (2015). [Time cited: 163]

22. *Spin jam induced by quantum fluctuations in a frustrated magnet,* J. Yang, A. M. Samarakoon, S. E. Dissanayake, H. Ueda, I. Klich, K. Iida, D. Pajerowski, N. Butch, Q. Huang, J.R.D. Copley, S.-H. Lee, Proc. Natl. Acad. Sci. **112**, 11519-11523 (2015). [Time cited: 12]

23. *In-plane charge fluctuations in bismuth-sulfide superconductors,* A. Athauda, J. Yang, S.-H. Lee, Y. Mizuguchi, K. Deguchi, Y. Takano, O. Miura, D. Louca, Phys. Rev. B **91**, 144112 (2015). [Time cited: 48]

24. *The crystal structure of superconducting* $LaO_{1-x}F_xBiS_2$, A. Athauda, J. Yang, B. Li, Y. Mizuguchi, S.-H. Lee, D. Louca, J. Supercon. Novel Mag. **28**, 1255 (2015). [Time cited: 12]

25. *Coexistence of ferromagnetism and superconductivity in* $CeO_{0.3}F_{0.7}BiS_2$, J. Lee, S. Demura, M. B. Stone, K. Iida, G. Ehlers, C. R. dela Cruz, M. Matsuda, K. Deguchi, Y. Takano, Y. Mizuguchi, O. Miura, D. Louca, and S.-H. Lee, in press, Phys. Rev. B (2014). [Time cited: 21]

26. *Glassiness and exotic entropy scaling induced by quantum fluctuations in a disorder-free frustrated magnet,* I. Kich, S.-H. Lee, K. Iida, Nature Communications **5**, 3497 (2014). [Time cited: 19]

27. *Dynamic spin correlations in the frustrated cubic phase of* MnV_2O_4, J.-H. Chung, Y.S. Song, J.-H. Kim, T. Suzuki, T. Katsufuji, M. Matsuda, S.-H. Lee, Phys. Rev. B **88**, 094430 (2013). [Time cited: 10]

28. *Incommensurate spin spiral of the geometrically-frustrated antiferromagnet* $CdCr_2O_4$, J.-H. Chung, Y.S. Song, S. Park, H. Ueda, Y. Ueda, S.-H. Lee, J. Kor. Phys. Soc. **62**, 1900-1904 (2013). [Time cited: 8]

29. *Crystal structure, lattice vibrations, and superconductivity of* $LaO_{1-x}F_xBiS_2$, J. Lee, M. B. Stone, A. Huq, G. Ehlers, Y. Mizuguchi, O. Miura, Y. Takano, K. Deguchi, S. Demura, S.-H. Lee, Phys. Rev. B **87**, 205134 (2013). [Time cited: 63]

30. *Two-dimensional incommensurate magnetic fluctuations in* $Sr_2(Ru_{0.99}Ti_{0.01})O_4$, K. Iida, J. Lee, M. B. Stone, M. Kofu, Y. Yoshida, S.-H. Lee, J. Phys. Jpn. Soc. **81**, 124710 (2012). [Time cited: 46

31. *Determination of spin Hamiltonian in the* Ni_4 *magnetic molecule,* K. Iida, S.-H. Lee, Y. Qiu, K. Matsubayashi, T. Onimaru, T. J. Sato, Phys. Rev. B **86**, 064422 (2012). [Time cited: 3]

32. *Infrared phonons and specific heat in* $Ba_3Cr_2O_8$, Z. Wang, M. Schmidt, A. Gunther, F. Mayr, Y. Wan, S.-H. Lee, H. Ueda, Y. Ueda, A. Loidl, J. Deisenhofer, Phys. Rev. B **85**, 224304 (2012). [Time cited: 6]

33. *Spin reorientation in the square-lattice antiferromagnets RMnAs (R = Ce, Nd): Density functional analysis of the spin-exchange interactions between the rare-earth and transition-metal ions*, C. Lee, E. Kan, H. Xiang, R. K. Kremer, S.-H. Lee, Z. Hiroi, M-H. Whangbo, Inorg. Chem. **51**, 6890 (2012). [Time cited: 16]

34. *Magnetic field-induced instability of cooperative paramagnetic state in* $Zn_xCo_{4-x}(OD)_6Cl_2$, S. E. Dissanayake, C. Chan, S. Ji, J. Lee, H.-J. Koo, M.-H. Whangbo, Y. Qiu, K. C. Rule, B. Lake, M. Green, X. G. Zheng, T. K. Ng, S.-H. Lee, Phys. Rev. B **85**, 174435 (2012). [Time cited: 7]

35. *Coexisting order and disorder hidden in a quasi-two-dimensional frustrated magnet,* K. Iida, S.-H. Lee, S-W. Cheong, Phys. Rev. Lett. **108**, 217205 (2012). [Time cited: 10]

36. *Conductivity and incommensurate antiferromagnetism of* $Fe_{1.02}Se_{0.10}Te_{0.90}$ *under pressure,* N. Katayama, K. Matsubayashi, Y. Nomura, S. Ji, J. Leao, M. A. Green, T. J. Sato, Y. Uwatoko, M. Fujita, K. Yamada, R. Arita, S.-H. Lee, Europhys. Lett. **98**, 37002 (2012).

37. *Ferromagnetism in CuFeSb: Evidence of competing magnetic interactions in Fe-based superconductors,* R. A. de Souza, U. Staub, V. Scagnoli, M. Garganourakis, Y. Bodenthin, B. Qian, J. Lee, J. Hu, G. C. Wang, P. Kumar, M. H. Fang, T. J. Liu, D. Fobes, H. Pham, L. Spinu, X. S. Wu, M. Green, S.-H. Lee, Z. Q. Mao, Phys. Rev. B **85**, 144427 (2012). [Time cited: 12]

38. *Magnetic structure and electric field effects in multiferroic* YMn_2O_5, R. A. de Souza, U. Staub, V. Scagnoli, M. Garganourakis, Y. Bodenthin, S.-W. Huang, M. Garcia-Fernandez, S. Ji, S.-H. Lee, S. Park, S-W. Cheong, Phys. Rev. B **84**, 104416 (2011). [Time cited: 15]

39. *Magnetic excitations in the low-temperature ferroelectric phase of multiferroic YMn_2O_5 using inelastic neutron scattering,* J.-H. Kim, M. A. van der Vegte, A. Scaramucci, S. Artyukhin, J.-H. Chung, S. Park, S-W. Cheong, M. Mostovoy, S.-H. Lee, Phys. Rev. Lett. **107**, 097401 (2011). [Time cited: 22]

40. *Inelastic neutron scattering study of the magnetic fluctuations in Sr_2RuO_4,* K. Iida, M. Kofu, N. Katayama, J. Lee, R. Kajimoto, Y. Inamura, M. Nakamura, M. Arai, Y. Yoshida, M. Fujita, K. Yamada, S.-H. Lee, Phys. Rev. **84**, 060402(R) (2011). [Time cited: 28]

41. *Synchrotron x-ray study of lattice vibrations in $CdCr_2O_4$,* J-H. Kim, M. Matsuda, H. Ueda, Y. Ueda, J.-H. Chung, S. Tsutsui, A. Baron, S.-H. Lee, J. Phys. Soc. Jpn. **80**, 073603 (2011). [Time cited: 5]

42. *Investigation of the spin-glass regime between the antiferromagnetic and superconducting phases in $Fe_{1+y}Se_xTe_{1-x}$,* N. Katayama, S. Ji, D. Louca, S.-H. Lee, M. Fujita, T. J. Sato, J. S. Wen, Z. J. Xu, G. D. Gu, G. Xu, Z. W. Lin, M. Enoki, S. Chang, K. Yamada, J. M. Tranquada, J. Phys. Soc. Jpn, **79**, 113702 (2010). [Time cited: 81]

43. *Ferromagnetically coupled Shastry-Sutherland quantum spin singlets in $(CuCl)LaNb_2O_7$,* C. Tassel, J. Kang, C. Lee, O. Hernandez, Y. Qiu, W. Paulus, E. Collet, B. Lake, T. Guidi, M. H. Whangbo, C. Ritter, H. Kageyama, S.-H. Lee, Phys. Rev. Lett. **105**, 167205 (2010). [Time cited: 26]

44. *Zero-doping state and electron-hole asymmetry in an ambipolar cuprate,* K. Segawa, M. Kofu, S.-H. Lee, I. Tsukada, H. Hiraka, M. Fujita, S. Chang, K. Yamada, Y. Ando, Nature Physics **6**, 579-583 (2010). [Time cited: 21]

45. *Coupling of spin and orbital excitations in the iron-based superconductor $FeSe_{0.5}Te_{0.5}$,* S.-H. Lee, G. Xu, W. Ku, J. S. Wen, C. C. Lee, N. Katayama, Z. J. Xu, S. Ji, Z. W. Lin, G. D. Gu, H.-B. Yang, P. D. Johnson, Z.-H. Pan, T. Valla, M. Fujita, T. J. Sato, S. Chang, K. Yamada, J. M. Tranquada, Phys. Rev. B. **81**, 220502 (2010). [Time cited: 64]

46. *High magnetic field micro-calorimeter and application for BE-condensation of Cr^{5+} dimer system,* T. Zenmoto, Y. Oshima, H. Nojiri, S.-H. Lee, M. Kofu, J. Low Temp. Phys. **159**, 118 (2010). [Time cited: 4]

47. *Orbital order and partial electronic delocalization in a triangular magnetic metal Ag_2MnO_2,* S. Ji, E. J. Kan, M.H. Whangbo, J.H. Kim, Y. Qiu, M. Matsuda, H. Yoshida, Z. Hiroi, M. A. Green, T. Ziman, S.-H. Lee, Phys. Rev. B. **81**, 094421 (2010). [Time cited: 21]

48. *Universal magnetic structure of the half-magnetization phase in Cr-based spinels*, M. Matsuda, K. Ohoyama, S. Yoshii, H. Nojiri, P. Frings, F. Duc, B. Vignolle, G. L. J. A. Rikken, L-P. Regnault, S.-H. Lee, H. Ueda, Y. Ueda, Phys. Rev. Lett. **104**, 047201 (2010). [Time cited: 23]

49. *Spin-lattice order in frustrated $ZnCr_2O_4$*, S. Ji, S.-H. Lee, C. Broholm, O. Tchernyshov, T. Y. Koo, W. Ratcliff, S-W. Cheong, P. Zachack, Phys. Rev. Lett. **103**, 037201 (2009). [Time cited: 65]

50. *Reassessment of the Burns temperature and its relationship to the diffuse scattering, lattice dynamics, and thermal expansion in the relaxor $PbMg_{1/3}Nb_{2/3}O_3$,* P. M. Gehring, H. Hiraka, C. Stock, S.-H. Lee, W. Chen, Z.-G. Ye, S. B. Vakhrushev, and Z. Chowdhuri, Phys. Rev. B **79**, 224109 (2009). [Time cited: 98]

51. *Neutron scattering investigation of the magnetic order in single crystalline $BaFe_2As_2$,* M. Kofu, Y. Qiu, W. Bao, S.-H. Lee, S. Chang, T. Wu, and X. H. Chen, New J. Phys. **11**, 055001 (2009). [Time cited: 39]

52. *Magnetic field-induced phase transitions in a weakly coupled s = ½ quantum spin dimmer system $Ba_3Cr_2O_8$*, M. Kofu, H. Ueda, H. Nojiri, Y. Oshima, T. Zenmoto, K. Rule, S. Gerischer, B. Lake, C. D. Batista, Y. Ueda, S.-H. Lee, Phys. Rev. Lett. **102**, 177204 (2009). [Time cited: 33]

53. *Hidden quantum spin gap state in the static stripe phase of $La_{2-x}Sr_xCuO_4$*, M. Kofu, S.-H. Lee, M. Fujita, H.-J. Kang, H. Eisaki, K. Yamada, Phys. Rev. Lett. **102**, 047001 (2009). [Time cited: 43]

54. *Weakly coupled s = ½ quantum spin singlets in $Ba_3Cr_2O_8$*, M. Kofu, J.-H. Kim, S. Ji, S.-H. Lee, H. Ueda, Y. Qiu, H. J. Kang, M. Green, Y. Ueda, Phys. Rev. Lett. **102**, 037206 (2009). [Time cited: 35]

55. *Spiral spin structures and origin of the magneto-electric coupling in YMn_2O_5*, J.-H. Kim, S.-H. Lee, S. I. Park, M. Kenzelmann, J. Schefer, J.-H. Chung, C. F. Majkrzak, M. Takeda, S. Wakimoto, S. Y. Park, S-W. Cheong, M. Matsuda, H. Kimura, Y. Noda, K. Kakurai, Phys. Rev. B **78**, 245115 (2008). [Time cited: 38]

56. *Doping-dependent charge and spin superstructures in layered cobalt perovskites*, N. Sakiyama, I. A. Zaliznyak, S.-H. Lee, Y. Mitsui, H. Yoshizawa, Phys. Rev. B **78**, 180406(R) (2008). [Time cited: 20]

57. *Low-energy spin fluctuations in the ground states of electron-doped $Pr_{1-x}LaCe_xCuO_4$ cuprate superconductors*, M. Fujita, M. Matsuda, S.-H. Lee, M. Nakagawa, K. Yamada, Phys. Rev. Lett. **101**, 107003 (2008). [Time cited: 33]

58. *External magnetic field effects on a distorted kagome antiferromagnet*, J.-H. Kim, S. Ji, S.-H. Lee, B. Lake, T. Yildirim, H. Nojiri, K. Habicht, Y. Qiu, K. Kiefer, Phys. Rev. Lett. **101**, 107201 (2008). [Time cited: 27]

59. *Spin and charge order in single-layered perovskite cobaltates*, N. Sakiyama, Y. Mitsui, H. Yoshizawa, I. A. Zaliznyak, S.-H. Lee, J. Kor. Phys. Soc. **53**, 995 (2008).

60. *Neutron scattering study of the oxypnictide superconductor La(O,F)FeAs*, Y. Qiu, M. Kofu, W. Bao, S.-H. Lee, Q. Huang, T. Yildirim, J. R. D. Copley, J. W. Lynn, T. Wu, G. Wu, X. H. Chen, Phys. Rev. B **78**, 052508 (2008). [Time cited: 45]

61. *Frustrated minority spins in $GeNi_2O_4$*, M. Matsuda, J.-H. Chung, S. Park, T. J. Sato, K. Matsuda, H. Aruga-Katori, H. Takagi, K. Kakurai, K. Kamazawa, Y. Tsunoda, I. Kagomiya, C. L. Henley, S.-H. Lee, Europhys. Lett. **82**, 37006 (2008). [Time cited: 17]

62. *Magnetic excitations and orbital physics in ferrimagnetic spinel, MnB_2O_4 (B = Mn, V)*, J.-H. Chung, J.-H. Kim, S.-H. Lee, T. J. Sato, T. Katsufuji, Phys. Rev. B **77**, 054412 (2008). [Time cited: 65]

63. *Neel to Spin-Glass-like Phase Transition versus Dilution in Geometrically Frustrated $ZnCr_{2-2x}Ga_{2x}O_4$,* S.-H. Lee, W. Ratcliff, Q. Huang, T. H. Kim, S-W. Cheong, Phys. Rev. B **77**, 014405 (2008). [Time cited: 16]

64. *Quantum spin liquid states in the two dimensional kagome antiferromagnets, $Zn_xCu_{4-x}(OD)_6Cl_2$*, S.-H. Lee, H. Kikuchi, Y. Qiu, B. Lake, Q. Huang, K. Habicht, K. Kiefer, Nature Materials **6**, 853 (2007). [Time cited: 159]

65. *Spin-lattice instability to a fractional magnetization state in the spinel $HgCr_2O_4$,* M. Matsuda, H. Ueda, A. Kikkawa, Y. Tanaka, K. Katsumata, Y. Narumi, T. Inami, Y. Ueda, S.-H. Lee, Nature Physics **3**, 397 (2007). [Time cited: 92]

66. *Crystal distortions in geometrically frustrated ACr_2O_4 (A = Zn, Cd),* S.-H. Lee, *et al*. J. of Phys. – Cond. Matt. **19** (14), 145259 (2007). [Time cited: 42]

67. *Spiral spin structure in a Heisenberg pyrochlore magnet $CdCr_2O_4$,* M. Matsuda, M. Takeda, M. Nakamura, K. Kakurai, A. Oosawa, E. Lelievre-Berna, J.-H. Chung, H. Ueda, H. Takagi, S.-H. Lee, Phys. Rev. B **75**, 104415 (2007). [Time cited: 41]

68. *Spin incommensurability and two phase competition in cobaltites,* D. Phelan, D. Louca, K. Kamazawa, S.-H. Lee, S. Rosenkranz, M. F. Hundley, J. F. Mitchell, Y. Motome, S. N. Ancona, Y. Moritomo, Phys. Rev. Lett. **97**, 235501 (2006). [Time cited: 68]

69. *Magnetic excitation spectrum of the square lattice S = ½ Heisenberg antiferromagnet $K_2V_3O_8$,* M. D. Lumsden, S. E. Nagler, B. C. Sales, D. A. Tennant, D. F. McMorrow, S.-H. Lee, Phys. Rev. B **74**, 214424 (2006). [Time cited: 15]

70. *Evolution of low-energy spin dynamics in the electron-doped high-transition-temperature superconductor $Pr_{0.88}LaCe_{0.12}CuO_{4-\delta}$* S. D. Wilson, S. Li, P. Dai, W. Bao, J.-H. Chung, H. J. Kang, S.-H. Lee, S. Komiya, Y. Ando, Q. Si, Phys. Rev. B **74**, 144514 (2006). [Time cited: 34]

71. *Dielectric properties and lattice dynamics of Ca-doped $K_{0.95}Li_{0.05}TaO_3$,* S. Wakimoto, G. A. Samara, R. K. Grubbs, E. L. Venturini, L. A. Boatner, G. Xu, G. Shirane, and S.-H. Lee, Phys. Rev. B **74**, 054101 (2006). [Time cited: 21]

72. *Local order and frustration in the geometrically frustrated spinels $Cd_{1-x}Zn_xV_2O_4$*, Z. Zhang, D. Louca, A. Visinoiu, S.-H. Lee, J.D. Thompson, Y. Qiu, S. Park, Y. Ueda, Phys. Rev. B **74**, 014108 (2006). [Time cited: 40]

73. *Spin waves in the frustrated kagome lattice antiferromagnet $KFe_3(OH)_6(SO_4)_2$*, K. Matan, D. Grohol, D.G. Nocera, Y. Yildirim, A.B. Harris, S.-H. Lee, S.E. Nagler, Y.S. Lee, Phys. Rev. Lett. **96**, 247201 (2006). [Time cited: 117]

74. *Non-Fermi liquid behavior and quantum criticality in $Sc_{1-x}U_xPd_3$ and $URu_{2-x}Re_xSi_2$*, M.B. Maple, N.P. Butch, E.D. Bauer, V.S. Zapf, P.C. Ho, S.D. Wilson, P.C. Dai, D.T. Adroja, S.-H. Lee, J.H. Chung, J. Lynn, Physica B-Cond. Matt. **378-80**, 911-914 (2006). [Time cited: 3]

75. *Magnetic structures in UCuSn*, S. El-Khatib, A. Llobet, A. Purwanto, R.A. Robinson, S.-H. Lee, J.W. Lynn, S. Chang, H. Nakotte, J. Appl. Phys. **99**, 08P704 (2006). [Time cited: 1]

76. *Nano-magnetic droplets and implications to orbital ordering in $La_{1-x}Sr_xCoO_3$*, D. Phelan, D. Louca, S. Rosenkranz, S.-H. Lee, Y. Qiu, P. J. Chupas, R. Osborn, H. Zheng, J. F. Mitchell, J. R. D. Copley, J. L. Sarrao, and Y. Moritomo, Phys. Rev. Lett. **96**, 027201 (2006). [Time cited: 131]

77. *Statics and dynamics of an incommensurate spin order in a geometrically frustrated antiferromagnet $CdCr_2O_4$*, J.-H. Chung, M. Matsuda, S.-H. Lee, K. Kakurai, H. Ueda, T.J. Sato, H. Takagi, K.-P. Hong, and S. Park, Phys. Rev. Lett. **95**, 247204 (2005). [Time cited: 131]

78. *Magnetic phase diagram of the colossal magnetoelectric $DyMn_2O_5$*, W. Ratcliff, V. Kiryukhin, M. Kenzelmann, S.-H. Lee, R. Erwin, J. Schaeffer, N. Hur, S. Park, S.-W. Cheong, Phys. Rev. B **72**, 060407(R) (2005). [Time cited: 75]

79. *Cold neutron triple-axis spectroscopy and condensed matter physics,* S.-H. Lee and C. Broholm, Proceedings of the International Symposium on Research Reactor and Neutron Science - In Commemoration of the 10th Anniversary of HANARO, Daejeon, Korea, April (2005).

80. *Spin chirality on a two-dimensional frustrated lattice*, D. Grohol, K. Matan, J.-H. Cho, S.-H. Lee, J. W. Lynn, D. G. Noceral, and Y. S. Lee, Nature Materials **4**, 323 (2005). [Time cited: 207]

81. *Quantum critical scaling and the origin of non-Fermi-liquid behavior in $Sc_{1-x}U_xPd_3$*, S. D. Wilson, P. Dai, D. T. Adroja, S.-H. Lee, J.-H. Chung, J. W. Lynn, N. P. Butch, and M. B. Maple, Phys. Rev. Lett. **94**, 056402 (2005). [Time cited: 22]

82. *High Resolution study of spin excitations in the Shastry-Sutherland singlet ground state of $SrCu_2(BO_3)_2$*, B. D. Gaulin, S.-H. Lee, S. Haravifard, J. P. Castellan, A. J. Berlinsky, H. A. Dabkowska, Y. Qiu, J. R. D. Copley, Phys. Rev. Lett. **93**, 267202 (2004). [Time cited: 54]

83. *Cold neutron study on the diffuse scattering and phonon excitations in the relaxor $Pb(Mg_{1/3}Nb_{2/3})O_3$,* H. Hiraka, S.-H. Lee, G. Shirane, Phys. Rev. B **70**, 184105 (2004). [Time cited: 65]

84. *Orbital and spin chains in ZnV_2O_4*, S.-H. Lee, D. Louca, T. Sato, Y. Ueda, M. Isobe, S. Rosenkranz, and R. Osborn, Phys. Rev. Lett. **93**, 156407 (2004). [Times cited: 249]

85. *Characterization of low-energy magnetic excitations in chromium,* H. Hiraka, P. Boni, K. Yamada, S. Park, S.-H. Lee, P.M. Gehring, G.Y. Xu, G. Shirane, Phys. Rev. B **70**, 144413 (2004). [Time cited: 7]

86. *Dissociation of spin objects in geometrically frustrated $CdFe_2O_4$,* K. Kamazawa, S. Park, S.-H. Lee, T.J. Sato, Y. Tsunoda, Phys. Rev. B **70**, 024418 (2004). [Times cited: 30]

87. *Spin-Flop transition and anisotropic magnetoresistance in $Pr_{1.3-x}La_{0.7}Ce_xCuO_4$: Unexpected strong spin-charge coupling in electron-doped cuprates*, A.N. Lavrov, H.J. Kang, Y. Kurita, T. Suzuki, S. Komiya, J.W. Lynn, S.-H. Lee, P. Dai, and Y. Ando, Phys. Rev. Lett. **92**, 227003 (2004). [Times cited: 41]

88. *Polarized neutron measurements of magnetic order in $YbBa_2Cu_3O_{6.45}$*, H. A. Mook, Pengcheng Dai, S. M. Hayden, A. Hiess, S.-H. Lee, and F. Dogan, Phys. Rev. B **69**, 134509 (2004). [Times cited: 26]

89. *Neutron scattering study of the effects of dopant disorder on the superconductivity and magnetic order in stage-4 La_2CuO_{4+y}*, Y. S. Lee, F. C. Chou, A. Tewary, M. A. Kastner, S.-H. Lee, and R. J. Birgeneau, Phys. Rev. B **69**, 020502 (2004). [Times cited: 26]

90. *Unconventional spin fluctuations in the hexagonal antiferromagnet $YMnO_3$*, T.J. Sato, S.-H. Lee, T. Katsufuji, M. Masaki, S. Park, J.R.D. Copley, and H. Takagi, Phys. Rev. B **68**, 014432 (2003). [Times cited: 83]

91. *Effect of a magnetic field on the spin- and charge-density wave order in $La_{1.45}Nd_{0.4}Sr_{0.15}CuO_4$*, S. Wakimoto, R.J. Birgeneau, N. Ichikawa, Y.J. Kim, K.M. Kojima, S.-H. Lee, J.M. Tranquada, S. Uchida, M.v. Zimmermann, Phys. Rev. B **67**, 184419 (2003). [Times cited: 46]

92. *Commensurate spin dynamics in the superconducting state of an electron-doped cuprate superconductor*, K. Yamada, K. Kurahashi, T. Uefuji, M. Fujita, S. Park, S.-H. Lee, Y. Endoh, Phys. Rev. Lett. **90**, 137004 (2003). [Times cited: 112]

93. *Effect of a magnetic field on long-range magnetic order in stage-4 and stage-6 superconducting La_2CuO_{4+y}*, B. Khaykovich, R.J. Birgeneau, F.C. Chou, R.W. Erwin, M.A. Kastner, S.-H. Lee, Y.S. Lee, P. Smeibidl, P. Vorderwisch, S. Wakimoto, Phys. Rev. B **67**, 054501 (2003). [Times cited: 45]

94. *Spin excitations in 3D molecular magnets probed by neutron scattering*, H.N. Bordallo, L.C. Chapon, J.C. Cook, J.R. Copley, E. Goremychkin, S. Kern, S.-H. Lee, T. Yildirim, and J.L. Manson, Appl. Phys. A **74**, S634 (2002). [Times cited: 7]

95. *Observation of linear spin wave dispersion in re-entrant spin glass $Fe_{0.7}Al_{0.3}$*, S.M. Shapiro, Wei Bao, S. Raymond, S.-H. Lee, and K. Motoya, Appl. Phys. A **74**, S859 (2002). [Times cited: 1]

96. *Spin and lattice excitations in the heavy fermion superconductor UNi_2Al_3*, B.D. Gaulin, M. Mao, C.R. Wiebe, Y. Qui, S.M. Shapiro, C. Broholm, S.-H. Lee, J.D. Garrett, Phys. Rev. B **66**, 174520 (2002). [Times cited: 6]

97. *Magnetic order in $YBa_2Cu_3O_{6+x}$ superconductors*, H.A. Mook, P. Dai, S.M. Hayden, A. Hiess, J.W. Lynn, S.-H. Lee, and F. Dogan, Phys. Rev. B **66**, 144513 (2002). [Times cited: 59]

98. *Emergent excitations in a geometrically frustrated magnet*, S.-H. Lee, C. Broholm, W. Ratcliff, G. Gasparovic, T.H. Kim, Q. Huang, and S-W. Cheong, Nature **418**, 856 (2002). [Times cited: 393]

99. *Doping evolution of phonon density of states and electron-lattice interaction in $Nd_{2-x}Ce_xCuO_{4+d}$*, H.J. Kang, P. Dai, D. Mandrus, R.J. Jin, H.A. Mook, D.T. Adroja, S.M. Bennington, S.-H. Lee, and J.W. Lynn, Phys. Rev. B **66**, 064506 (2002). [Times cited: 24]

100. *Enhancement of long-range magnetic order by magnetic field superconducting La_2CuO_{4+y}*, B. Khaykovich, Y.S. Lee, R. Erwin, S.-H. Lee, S. Wakimoto, K.J. Thomas, M.A. Kastner, and R.J. Birgeneau, Phys. Rev. B **66**, 014528 (2002). [Times cited: 119]

101. *Freezing of spin correlated nanoclusters in a geometrically frustrated antiferromagnet*, W. Ratcliff, S.-H. Lee, C. Broholm, S-W. Cheong, and Q. Huang, Phys. Rev. B **65**, 220406 (2002). [Times cited: 34]

102. *Freezing of a stripe liquid*, S.-H. Lee, J.M. Tranquada, K. Yamada, D.J. Buttrey, Q. Li, and S-W. Cheong, Phys. Rev. Lett. **88**, 126401 (2002). [Times cited: 39]

103. *Static magnetic correlations near the insulating-superconducting phase boundary in $La_{2-x}Sr_xCuO_4$*, M. Fujita, K. Yamada, H. Hiraka, P.M. Gehring, S.-H. Lee, S. Wakimoto, and G. Shirane, Phys. Rev. B **65**, 064505 (2002). [Times cited: 208]

104. *Spin Dynamics in the S=1/2 weakly-coupled chains antiferromaget $BaCu_2Si_2O_7$*, A. Zheludev, M. Kenzelmann, S. Raymond, T. Masuda, K. Uchinokura, and S.-H. Lee, Phys. Rev. B **65**, 014402 (2002). [Times cited: 31]

105. *Diagonal static spin correlation in the low-temperature orthorhombic Pccn phase of $La_{1.55}Nd_{0.4}Sr_{0.05}CuO_4$*, S. Wakimoto, J.M. Tranquada, T. Ono, K.M. Kojima, S. Uchida, S.-H. Lee, P.M. Gehring, and R.J. Birgeneau, Phys. Rev. B **64**, 174505 (2001). [Times cited: 22]

106. *Continuum in the spin excitation spectrum of a Haldane chain, observed by neutron scattering in $CsNiCl_3$*, I.A. Zaliznyak, S.-H. Lee, and S.V. Petrov, Phys. Rev. Lett. **87**, 017202 (2001). [Times cited: 48]

107. *Spin fluctuations in a magnetically frustrated metal LiV_2O_4*, S.-H. Lee, Y. Qiu, C. Broholm, Y. Ueda, and J.J. Rush, Phys. Rev. Lett. **86**, 5554 (2001). [Times cited: 79]

108. *Charge and Canted Spin Order in $La_{2-x}Sr_xNiO_4$ (x=0.275 and 1/3)*, S.-H. Lee, S-W. Cheong, K. Yamada, and C.F. Majkrzak, Phys. Rev. B **63**, 060405(R) (2001). [Times cited: 57]

109. *Triple-axis research at NIST*, C.P. Adams, Y.S. Lee, S.-H. Lee, and J.W. Lynn, Neutron News **12**(2), 15 (2001).

110. *Dynamics changes in the molten globule to native folding studied by quasielastic neutron scattering*, Z. M. Bu, D. A. Neumann, S.-H. Lee, C. M. Brown, D. M. Engelman, C. Han, Biophysical J. **80**(1), 340 (2001).

111. *Detection of field-dependent antiferromagnetic domains in exchange-biased Fe_3O_4/NiO superlattices*, J.A. Borchers, Y. Ijiri, D.M. Lind, P.G. Ivanov, R.W. Erwin, A. Qasba, S.-H. Lee, K.V. O'Donovan, and D. Dender, Appl. Phys. Lett. **77**, 4187 (2000). [Times cited: 27]

112. *Magnetic excitations in coupled Haldane spin chains near the quantum critical point*, A. Zheludev, T. Masuda, I. Tsukada, Y. Uchiyama, K. Uchinokura, P. Boni, and S.-H. Lee, Phys. Rev. B **62**, 8921 (2000). [Times cited: 68]

113. *Local magnetic order vs superconductivity in a layered cuprate*, N. Ichikawa, S. Uchida, J.M. Tranquada, T. Niemoller, P.M. Gehring, S.-H. Lee, and J.R. Schneider, Phys. Rev. Lett. **85**, 1738 (2000). [Times cited: 205]

114. *A view of dynamics changes in the molten globule-native folding step by quasielastic neutron scattering*, Z. Bu, D.A. Neumann, S.-H. Lee, C.M. Brown, D.M. Engleman, and C.C. Han, J. Mol. Bio. **301**, 525 (2000). [Times cited: 49]

115. *Neutron Scattering on Magnetic Thin Films: Pushing the Limits*, A. Schreyer, T. Schmitte, R. Siebrecht, P. Bodeker, H. Zabel, S.-H. Lee, R. W. Erwin, C.F. Majkrzak, J. Kwo, M. Hong, J. Appl. Phys. **87**, 5443 (2000). [Times cited: 34]

116. *Local spin resonance and spin-Peierls-like phase transition in a geometrically frustrated antiferromagnet*, S.-H. Lee, C. Broholm, T.H. Kim, W. Ratcliff II and S-W. Cheong, Phys. Rev. Lett. **84**, 3718 (2000). [Times cited: 320]

117. *Cold neutron inelastic scattering measurements of the spin-Peierls and antiferromagnetic excitations in Si-doped $CuGeO_3$ single crystals*, P. M. Gehring, S.-H. Lee, K. Hirota, T. Masuda, K. Uchinokura, M. Hase, and G. Shirane, J. Phys. Soc. Japan **69**, 592 (2000). [Times cited: 2]

118. *Direct Observation of a One Dimensional Static Spin Modulation in Insulating $La_{1.95}Sr_{0.05}CuO_4$*, S. Wakimoto, R.J. Birgeneau, M.A. Kastner, Y.S. Lee, R. Erwin, P.M. Gehring, S.-H. Lee, M. Fujita, K. Yamada, Y. Endoh, K. Hirota, G. Shirane, Phys. Rev. B **61**, 3699 (2000). [Times cited: 165]

119. *Freezing of anisotropic spin clusters in $La_{1.98}Sr_{0.02}CuO_4$*, M. Matsuda, Y.S. Lee, M. Greven, M.A. Kastner, R.J. Birgeneau, K. Yamada, Y. Endoh, P. Boeni, S.-H. Lee, S. Wakimoto, G. Shirane, Phys. Rev. B **61**, 4326 (2000). [Times cited: 36]

120. *Search for Orbital Moments in Underdoped Cuprate Metals*, S.-H. Lee, C.F. Majkrzak, S.K. Sinha, C. Stassis, S-W. Cheong, H. Kawano, H.F. Fong, H. Matsushita, K. Yamada, and Y. Endoh, Phys. Rev. B **60**, 10405 (1999). [Times cited: 7]

121. *Neutron Scattering Studies of Spin Density Wave Order in the Superconducting State of Excess-Oxygen-Doped La_2CuO_{4+y}*, Y.S. Lee, R.J. Birgeneau, M.A. Kastner, Y. Endoh, S. Wakimoto, K. Yamada, R.W. Erwin, S.-H. Lee, G. Shirane, Phys. Rev. B **60**, 3643 (1999). [Times cited: 209]

122. *Observation of Incommensurate Magnetic Correlations at the Lower Critical Concentration for Superconductivity (x=0.05) in $La_{2-x}Sr_xCuO_4$*, S. Wakimoto, G. Shirane, Y. Endoh, K. Hirota, S. Ueki, K. Yamada, R.J. Birgeneau, M.A. Kastner, Y.S. Lee, P.M. Gehring, S.-H. Lee, Phys. Rev. B **60**, R769 (1999). [Times cited: 213]

123. *Glassy Statics and Dynamics in the Chemically Ordered Pyrochlore Antiferromagnet $Y_2Mo_2O_7$*, J.S. Gardner, B.D. Gaulin, S.-H. Lee, C. Broholm, N.P. Raju, and J.E. Greedan, Phys. Rev. Lett. **83**, 211 (1999). [Times cited: 157]

124. *A New Technique for Polarized Neutron Diffraction*, S.-H. Lee and C.F. Majkrzak, Physica B **267-268**, 341-343 (1999). [Times cited: 2]

125. *Polarized neutron diffraction studies of exchange-coupled Fe_3O_4/NiO superlattices*, J.A. Borchers, Y. Ijiri, D.M. Lind, P.G. Ivanov, R.W. Erwin, S.-H. Lee and C.F. Majkrzak, J. Appl. Phy. **85**(8), 5883 (1999). [Times cited: 13]

126. *Neutron Scattering Study of Static Antiferromagnetic Correlations in $La_{2-x}Sr_xCu_{1-y}Zn_yO_4$*, H. Kimura, K. Hirota, K. Yamada, Y. Endoh, S.-H. Lee, C.F. Majkrzak, R. Erwin, G. Shirane, M. Greven, Y.S. Lee, M.A. Kastner, and R.J. Birgeneau, Phys. Rev. B. **59**, 6517 (1999). [Times cited: 210]

127. *Neutron Scattering Study of Elastic Magnetic Signals in Superconducting $La_{1.94}Sr_{0.06}CuO_4$*, S. Wakimoto, K. Yamada, S. Ueki, G. Shirane, Y.S. Lee, S.-H. Lee, M.A.

Kastner, K. Hirota, P.M. Gehring, Y. Endoh, and R.J. Birgeneau, J. Phys. Chem. Solids **60**(8), 1079 (1999). [Times cited: 5]

128. *Role of the Antiferromagnet in Exchange-Biased Fe_3O_4/CoO superlattices*, Y. Ijiri, J.A. Borchers, R.W. Erwin, S.-H. Lee, P.J. van der Zaag, and R.M. Wolf, J. Appl. Phys. **83**, 6882 (1998). [Times cited: 19]

129. *Spin-Flop Tendencies in Exchange-Baised Co/CoO Thin Films*, J.A. Borchers, Y. Ijiri, S.-H. Lee, C.F. Majkrzak, G.P. Felcher, K. Takano, R. Kodama, and A.E. Berkowitz, J. Appl. Phys. **83**, 7219 (1998). [Times cited: 21]

130. *Perpendicular Coupling in Exchange-biased Fe_3O_4/CoO Superlattices*, Y. Ijiri, J.A. Borchers, R.W. Erwin, S.-H. Lee, P.J. van der Zaag, and R.M. Wolf, Phys. Rev. Lett. **80**, 608 (1998). [Times cited: 173]

131. *Neutron Scattering Studies of Non-Metallic Low-dimensional Quantum Antiferromagnets*, C. Broholm, D.H. Reich, G. Aeppli, S.-H. Lee, D. Dender, P. Hammar, G. Xu, J.F. DiTusa, and A.P. Ramirez, p. 77-105 in "Dynamical Properties of Unconventional Magnetic Systems", edited by A.T. Skjeltorp and D. Sherrington, NATO ASI Series, Series E: Applied Sciences vol. 349, Kluwer Academic Publishers, Boston (1998).

132. *Confinement Effects on the Roton in Helium*, P.E. Sokol, R.M. Dimeo, D.W. Brown, C.R Anderson, W.G. Stirling, M.A. Adams, S.-H. Lee, C. Rutiser, and S. Komarneni, Physica B **241**, 929-934 (1997). [Times cited: 2]

133. *Effects of Disorder on The Collective Excitations in Helium*, R.M. Dimeo, P.E. Sokol, D.W. Brown, C. Anderson, W.G. Stirling, M.A. Adams, S.-H. Lee, C. Rutiser, and S. Komarneni, Phys. Rev. Lett. **79**, 5274 (1997). [Times cited: 25]

134. *Less than 50% Sublattice Polarization in an Insulating S=3/2 Kagome Antiferromagnet T ≈ 0*, S.-H. Lee, C. Broholm, M.F. Collins, L. Heller, A.P. Ramirez, C. Kloc, E. Bucher, J. Stalek, R.W. Erwin, Phys. Rev. B **56**, 8091, (1997). [Times cited: 74]

135. *Doping Dependence of the Magnetic Resonance Peak in $YBa_2Cu_3O_{6+x}$*, B. Keimer, H.F. Fong, S.-H. Lee, D.L. Milius, I.A. Aksay, Physica C **282-287**, 232-235, (1997). [Times cited: 8]

136. *Melting of Quasi Two-Dimensional Charge Stripes in $La_{5/3}Sr_{1/3}NiO_4$*, S.-H. Lee and S-W. Cheong, Phys. Rev. Lett. **79**, 2514 (1997). [Times cited: 149]

137. *Magnetic Coherence in the Transition Metal Oxides*, G. Aeppli, C. Broholm, J.F. Di Tusa, S.M. Hayden, T. Ito, S.-H. Lee, T.E. Mason, H.A. Mook, K. Oka, T.G. Perring, A. Schroder, H. Takagi, and G. Xu, Physica B **237**, 30-35, (1997).

138. *Spin Glass and Non-Spin Glass Features of a Geometrically Frustrated Magnet*, S.-H. Lee, C. Broholm, G. Aeppli, A.P. Ramirez, T.G. Perring, C.J. Carlile, M.A. Adams, T.J.L. Jones, B. Hessen, Europhys. Lett. **35**, 127 (1996). [Times cited: 63]

139. *Isolated Spin Pairs and Two Dimensional Magnetism in $SrCr_{9p}Ga_{12-9p}O_{19}$*, S.-H. Lee, C. Broholm, G. Aeppli, T. Perring, B. Hessen, Phys. Rev. Lett. **76**, 4424 (1996). [Times cited: 86]

140. *Strong Magnetic Fluctuations in Transition Metal Oxides*, C. Broholm, G. Aeppli, S.-H. Lee, W. Bao, J.F. Ditusa, J. Appl. Phys. **79**, 5023 (1996). [Times cited: 9]