James Hone

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Education

University of California, Berkeley — Berkeley, CA
Ph.D., Condensed Matter Physics — 1998

Yale University — New Haven, CT
B.S., Physics — 1990

Positions

Columbia University New York NY
- Wang Fong-Jen Professor of Mechanical Engineering — 2015-
- Professor of Mechanical Engineering — 2013-2014
- Associate Professor of Mechanical Engineering — 2008-2012
- Assistant Professor of Mechanical Engineering — 2003-2007

California Institute of Technology Pasadena CA
- Millikan Postdoctoral Fellow in Experimental Condensed Matter Physics — 2000-2002

University of Pennsylvania Philadelphia PA
- Postdoctoral Researcher — 1998-2000

University of California, Berkeley Berkeley CA
- Graduate Student Researcher — 1993-1998
- Graduate Student Instructor — 1992-1993

New York City Public Schools New York, NY
- Teacher — 1990-1992

Scholarships and Awards

- APS James McGroddy Prize for New Materials — 2023
- Fellow, American Physical Society — 2023
- Columbia SEAS Archimedes Lecturer — 2016
- Distinguished Faculty Teaching Award, Columbia Engineering Alumni Association — 2015
- Great Teacher Award, Society of Columbia Graduates — 2014
- Chair Professor (honorary), Sungkyunkwan University, Samsung Advanced Institute for Nano Technology — 2013–
- Millikan Fellowship in Experimental Condensed Matter Physics — 2000
- Teaching Innovation Award, UC Berkeley — 1994
- Outstanding Graduate Student Instructor, UC Berkeley — 1994

Service and Professional Societies

- Member, Materials Research Society, American Physical Society
- Gordon Research Conference on 2D Materials Beyond Graphene, Vice Chair (2016), Chair (2018)
- External Advisory Board member, University of Illinois Urbana Champaign MRSEC (2024-)
- Co-organizer, GrapheneNYC conference (2019, 2020, 2022)
- Conference session organizer: APS March meeting (2018, 2013, 2007); IEEE RAPID (2018); IEEE NEMS (2008)
- Proposal Reviewer: NSF, DOE, ARO, NIH, Brookhaven National Lab Center for Functional Nanomaterials
- Technical committees: DOE Basic Research Needs Workshop on Quantum Materials for Energy Relevant Technology (Panelist, 2016); National Academy of Sciences, Condensed Matter and Materials Research Committee (Presenter, 2017)
- Reviewer: Science, Nature, Proc. Nat. Acad. Sci., Nature Nanotechnology, Nature Materials, Nature Communications, Nature Photonics, Advanced Materials, Nano Letters, Physical Review Letters, Applied Physics Letters, Nanotechnology, Journal of Applied Physics, J. Am. Chem. Soc, Physical Review B
- Public Lectures and Tutorials: Columbia Science on the Hudson (2025); ACS Brooklyn Frontiers of Science lecture (2017); NPR *Science Friday* (2014); Columbia SEAS Parents' Day (2013); Columbia *Cafe' Science* (2011), Science Channel *Sci-Fi Science* (2011) ASME Nano Educational Podcast (2009), ASME Nano Training Bootcamp (2003,2004,2005)/

Service and Leadership at Columbia

- Vice Chair, Dept. of Mechanical Engineering (2024-2025)
- Chair, Dept. of Mechanical Engineering (2021-2024)
- Associate Director, Columbia MRSEC (2021-2024)
- Director, Columbia MRSEC (2014-2021)
- Dept. of Mechanical Engineering Committee Service: Undergraduate Committee (2003-2008, 2014-2021); Graduate Committee (2008-2014), Chair (2010-2012); Lab committee (2003-2008, 2024-), Chair (2005-2007, 2025-); Faculty Search committee (2011, 2012, 2019)
- Columbia Nano Initiative Executive Committee (2017-)
- Columbia Nano Initiative Cleanroom Renovation, Faculty co-lead (2012-2016)
- SEAS quantum search committee (2019,2022,2023)

Research Advisees

Postdocs: Jesse Balgley, Li Yuan (joint with Dean), Yiping Wang (joint with Zhu)
PhD Students: Luke Holtzman (APAM), Ariane Marchese (MECE), Ted Chung (MECE), Xuanjing Chu (APAM), Sunggun (Simon) Yoon (MECE), Owethu Bukula (MECE), Matthew Beck (MECE), Samantha Wang (APAM), Katherine Lee (APAM).
MS Students Snehal Satlawar (CHEME)
Undergraduates Ken Guo (APAM)

Graduated PhD students Nathaniel Wilson (2009), Bhupesh Chandra (2009), Mingyuan Huang (2009), Justin Abramson (2010), Saba Ghassemi (2010), Robert Caldwell (2011), Anurag Mathur (2011), Yuyao Shan (2012), Changyao Chen (2012), Zhengyi Zhang (2014), Nicholas Petrone (2014), Lei Wang (2014), Adam Hurst (2015), Sungjoo An (2015), Xian Zhang (2015), Shuaimin Liu (2016), Yuanda Gao (2016), Daniel Chenet (2016), Sunwoo Lee (2016), Demi Ajayi (2016), Mufeng Hu (2016), Junqiang Hu (2016), Fan Zhang (2017), Alex Cui (2017), Ghidewon Arefe (2018), Jenny Ardelean (2019), Cheng Tan (2019), Chris DiMarco (2019), Changjian Zhang (2020), Nathan Finney (2020), Bumho Kim (2020), Smiti Bhattacharya (2022), Abhinandan Antony (2022), Zhiying Wang (2025), Xingzhou Yan (2025), Anjaly Rajendran (2025), Jacob Amontree (2025).

Former Postdocs X. M. Henry Huang (2004-2005, Nantero, Inc.), Seong Chan Jun (2004-2006, Yonsei University), Oksana Cherniavskaya (2004-2006), Kim Nguyen (2006-2007), Christophe Voisin (2006-2007, ENS-Paris), Seokwoo Jeon (2007-2008, Yonsei University), Sami Rosenblatt (2006-2008, IBM), Jessika Trancik (2005-2007, MIT), Changgu Lee (2007-2010, Sungkyungkwan University), Cory Dean (2009-2012, Columbia), Vikram Deshpande (2009-2012, Univ. of Utah), Matteo Palma (2008-2010, St. Mary's Univ., London), Gwan-Hyoung Lee (2010-2013, Seoul National Univ.), Alexander Gondarenko (2010-2014), Arend van der Zande (2011-2015, UIUC), Yufeng Hao (2014-2016, Nanjing University), Young Duck Kim (2014-2017, Kyung Hee Univ.), Amit Ron (2012-2018), Jia Li (2015-2018, UT Austin), Younghun Jung (2016-2019, Samsung), Daniel Rhodes (2017-2019, University of Wisconsin), Sanghoon Chae (2018-2021, Nanyang Technical University), Qianhui Shi (2017-2021, UCLA), Song Liu (2018-2022, Peking University), Brian Kim (2018-2022, University of Arizona), Yang Liu (2019-2023, Chinese Academy of Sciences), Hae Yeon Lee (2021-2023, Rice University), Madisen Holbrook (2021-2025, University of Montreal), Jinho Park (2023-2025, Postech).

Invited Presentations

- Brookhaven National Laboratory Energy and Photon Science Directorate Colloquium, 2026
- ICAMD2025, Busan Korea, 2025 (Plenary lecture)
- NYSS-APS Topical Meeting, Univ. of Buffalo, 2025
- 2D TMDs 2025, Cambridge UK, 2025
- Nanotubes 2025, Kyoto Japan, 2025
- University of Chicago MOSAIC Symposium, 2025
- Electrochemical Society, Montreal Canada, 2025
- APS March Meeting, Irvine CA, 2025
- Stanford University Department of Materials Science Seminar, 2025
- Materials Research Society Fall Meeting, 2024
- UT Austin Department of Mechanical Engineering, 2024
- Rice University Quantum Materials Synthesis Workshop, 2024
- International Winterschool on Electronic Properties of Novel Materials, Kirchberg Austria, 2024
- Caltech Department of Materials Science Seminar, 2024
- Materials Research Society Fall meeting, 2023
- University of Delaware Quantum Science and Engineering Seminar, 2023
- UMass Amherst Department of Materials Science Seminar, 2023
- Yale University Dept. of Mechanical Engineering and Materials Science Seminar, 2023
- Graphene 2023, Manchester UK, 2023
- 2D TMDs 2023, Cambridge UK, 2023
- Graphene and Beyond, Penn State, 2023 (keynote lecture)
- APS March Meeting, 2023
- Materials Research Society Fall Meeting, 2022
- QMS2022, Maui HI, 2022
- International Symposium on Graphene Devices, Online, 2022
- Gordon Research Conference on 2D Materials Beyond Graphene, 2022
- Max Planck Institute, Stuttgart Germany (online), 2021
- IMECE, 2021 (keynote lecture)
- Rutgers University Dept. of Materials Science and Engineering Seminar, 2021
- Graphene Week 2021 (Plenary lecture)
- Materials Research Society Fall Meeting, 2020
- Graphene Canada, 2020
- Penn State 2D Materials Workshop, Penn State, 2020
- MIT, Department of Electrical Engineering Seminar, 2020
- UPenn, Department of Materials Science Seminar, 2020
- N2D 2020, San Sebastián Spain, 2020
- ICFO-MIT Symposium on Emergent Phenomena in Moire Materials, Barcelona Spain, 2020
- Materials Research Society Fall Meeting, 2019
- Seoul National University, Department of Materials Science Seminar, 2019
- Recent Progress in Graphene Research, Matsue Japan, 2019

- Carbonhagen, Copenhagen Denmark, 2019
- NSF/DoE QS3 Summer School, Penn State USA, 2019
- US/EU Graphene Workshop, Penn State USA, 2019
- International Winterschool on Electronic Properties of Novel Materials, Kirchberg Austria, 2019
- APS March Meeting, 2019
- ICON-2DMAT, Melbourne Australia, 2018
- Ohio State University, Department of Physics Seminar, 2018
- Cambridge Graphene Centre, Cambridge UK, 2018
- UC Berkeley, Kavli Nanoscience Institute Seminar, 2018
- Fudan University, Shanghai China, 2018
- Southeast University, Nanjing China, 2018
- Nanjing University, Nanjing China, 2018
- Sichuan University, Chengdu China, 2018
- Georgetown University, Department of Physics Seminar, 2018
- Rice University, Department of Chemistry Seminar, 2018
- University of the West Indies, 2018
- UIUC, Department of Mechanical Engineering Seminar 2018
- NSF Nanoscale Science and Engineering Grantees Conference, 2017 (keynote lecturer)
- Michigan State University, Physics department seminar, 2017
- Yale University, Mechanical Engineering and Materials Science department seminar, 2017
- MIT Valleytronics Materials, Architectures, and Devices Workshop, 2017
- Nanophotonics of 2D Materials, San Sebastian Spain, 2017
- Army Research Lab International Workshop on 2D Atomic Sheets Workshop, 2017
- University of Minnesota 2D Materials Workshop, 2017
- Guadalupe Nanotubes Workshop, Houston USA, 2017
- Graphene 2017, Barcelona Spain, 2017
- UCF 2D Materials Symposium, 2017 (keynote lecture)
- Harvard University Center for Integrated Quantum Materials, 2016
- Graphene Canada, 2016 (keynote lecture)
- EU-US Graphene Workshop, Manchester UK, 2016
- Graphene Research Conference, Seoul Korea, 2016
- Brazilian Physical Society, Natal Brazil, 2016
- International Conference on Internal Interfaces, Marburg Germany, 2016
- Brookhaven National Lab, 2016
- National High Magnetic Field Lab, 2016
- APS March Meeting, 2016
- Intel Research, 2016
- University of Washington, 2016
- MRS Fall Meeting, 2015
- Dasan Conference, Jeju Korea, 2015
- Seoul National University, Seoul Korea, 2015

- GraphITA, Bologna Italy, 2015
- Graphene Week, Manchester UK, 2015
- Samsung Display, Korea, 2015
- ETRI, Korea, 2015
- KAIST, Korea, 2015
- SKKU SAINT Center, Suwon Korea, 2015
- Materials Research Society Fall meeting, 2015
- Argonne National Lab, USA, 2015
- Northwestern University, Evanston USA, 2015
- NIMS Japan, Japan, 2014
- MNE 2014, Fukuoka Japan, 2014
- Sungkyunkwan University, Korea, 2014
- RPI, 2014
- Carbonhagen, Copenhagen Denmark, 2014
- Flatlands Conference, Dublin Ireland, 2014
- NT2014 Conference, 2014
- University of Alabama, 2014
- University of Vienna, Vienna Austria, 2014
- International Winterschool, Kirchberg Austria, 2014
- APS March Meeting, 2014
- University of Pennsylvania, 2014
- Stanford University, 2014
- National University of Singapore, 2013
- Materials Research Society Fall meeting, 2013
- Nano-Ontario Conference, Kingston Canada, 2013
- American Vacuum Society, 2013
- University of Pittsburgh, 2013
- Penn State University, 2013
- HeteroNanoCarb, Barcelona Spain, 2013
- ICFO, Barcelona Spain, 2013
- MicroNano Engineering, London UK, 2013
- ACCGE, 2013
- Boston Carbon Nanoscience Day, 2013
- Device Research Conference, 2013
- Materials Research Society Fall meeting, 2013
- International Winterschool, Kirchberg Austria, 2013
- Army Research Lab, 2012
- Qualcomm, 2012
- Stanford University, 2012
- NEMS Workshop, Barcelona Spain, 2012
- Rutgers University, 2012

- APS March Meeting, 2012
- KITP Conference, 2012
- St. John's University, 2011
- Graphene Research Conference, Suwon Korea, 2011
- Graphene Week, Austria, 2011
- NSF-NNI Workshop, USA, 2011
- Materials Research Society, 2010
- EuroGraphene Symposium, 2010
- Samsung Research Center, Suwon Korea, 2010
- Northwestern University, 2010
- UIUC, 2010
- Graphene Week, 2010
- MRS Spring Meeting, 2010
- APS March Meeting, 2010
- International Winterschool, Kirchberg Austria, 2010
- University of Pennsylvania, 2009
- American Vacuum Society, 2009
- US-Germany Conference, 2009
- Stanford University, 2009
- UC Berkeley, 2009
- International Winterschool, Kirchberg Austria, 2009
- Cornell University, 2009
- Brookhaven National Lab, 2009
- MIT, 2008
- Global Nanoscale Workshop, 2008
- Yale University, 2008
- Case Western Reserve University, 2008
- University of Maryland, College Park, 2008
- IBM Watson Research Center, 2008
- NNIN Users Meeting, 2008
- USC Workshop, 2008
- APS March Meeting, 2008
- Wayne State University, 2008
- CUNY, 2007
- National University of Singapore, 2007
- LBNL Molecular Foundry, 2007
- University of Pennsylvania, 2007
- UC Berkeley, 2007
- NanoPhys'07, Tokyo Japan, 2007
- American Vacuum Society, 2006
- Materials Research Society Fall meeting, 2006

- NSF-MEXT Symposium, Tokyo Japan, 2006
- IWEPNM, Kirchberg Austria, 2006
- SPIE Optics East, 2005
- Materials Research Society Fall meeting, 2005
- Cornell University, 2005
- UC Santa Barbara IGERT Seminar, 2005
- NJIT, 2004
- SPIE Optics East, 2004
- Les Houches Summer School, France, 2003
- IWEPNM, Kirchberg Austria, 2003
- APS March Meeting, 2003
- University of Washington, 2002
- US-Germany Joint Meeting, MIT, 2001
- TNT 2001, Segovia Spain, 2001
- Nanotubes 2001, Potsdam Germany, 2001
- ICTP Conference, Trieste Italy, 2001
- Queen's University Belfast, Belfast UK, 2001
- APS March Meeting, 2001
- Michigan State University Conference, 2001
- Materials Research Society Fall meeting, 2000
- APS March Meeting, 1999

Publications

Citation information (Google Scholar): Total citations 180,000 h-index 159 (March 2026)
https://scholar.google.com/citations?user=mQcg8HoAAAAJhl=en

Book Chapters

1. J. Hone, "Phonons and Thermal Properties," chapter in Carbon Nanotubes, Topics in Applied Physics 80, M.S. Dresselhaus, G. Dresselhaus, and P. Avouris, eds, pp. 273-286. (Springer-Verlag, 2001).
2. J. Hone, "Carbon Nanotubes: Thermal Properties," chapter in Encyclopedia of Nanoscience and Nanotechnology (Marcel Dekker, 2004).
3. Matteo Palma, Justin J. Abramson, Alon A. Gorodetsky, Colin Nuckolls, Michael P. Sheetz, Shalom J. Wind, and James Hone, "Controlled Confinement of DNA at the Nanoscale: Nanofabrication and Surface Biofunctionalization" DNA Nanotechnology: Methods and Protocols, in series Methods in Molecular Biology 749, 169-185 (2010).
4. C. DiMarco, R. Li, S. Rastogi, J. Hone, and J.W. Kysar, "Graphene Mechanical Properties" in 2D Materials: Properties and Devices, T.F. Heinz and P. Avouris, eds., 52-70 (2017).
5. Lei Wang, James Hone, and Cory. R. Dean, "Graphene – BN Heterostructures" in 2D Materials: Properties and Devices, T.F. Heinz and P. Avouris, eds., 220-238 (2017).

Journal Publications

[1] L. M. Devenica, Z. Hadjri, J. Kumlin, D. Suárez-Forero, R. T. Li, K. Domi, B. Lyu, W. J. Li, L. Fausten, V. Vento, N. Ubrig, S. Liu, J. Hone, K. Watanabe, T. Taniguchi, T. Pohl, and A. Srivastava, "Collective photon emission and ferroelectric exciton ordering near mott insulating state in WSe2 /WS2 heterobilayers", *Nature Materials*, Jan. 29, 2026, ISSN: 1476-1122.

[2] Y. X. Liu, L. C. Xiao, A. L. Masullo, Y. C. Ma, M. Holbrook, A. N. Pasupathy, J. C. Hone, A. Noual, and S. Strauf, "Prolonged exciton dephasing in WSe2 quantum emitters enabled by geometric strain confinement", *ACS Applied Nano Materials*, vol. 9, no. 8, pp. 3901–3909, Feb. 27, 2026.

[3] L. C. Xiao, Y. X. Liu, S. S. Mohajerani, A. Masullo, N. Liu, L. N. Holtzman, K. Barmak, J. Hone, S. Strauf, and A. Noual, "Quantum light funneling in tailored triangular plasmonic nanocavities", *ACS Nano*, vol. 20, no. 4, pp. 3610–3617, Feb. 3, 2026, ISSN: 1936-0851.

[4] Y. C. Yang, K. K. Xu, T. Pena, K. Neilson, X. D. Zheng, A. T. Hoang, K. Yang, Z. Hennighausen, T. Y. Zhang, L. N. Holtzman, C. A. Nattoo, J. C. Hone, K. Barmak, J. Kong, A. J. Mannix, E. Pop, and M. R. Rosenberger, "Nondestructive atomic defect quantification of two-dimensional materials and devices", *ACS Applied Materials & Interfaces*, vol. 18, no. 6, pp. 10 161–10 170, Feb. 18, 2026, ISSN: 1944-8244.

[5] S. Yoon, M. Beck, A. Marchese, K. Watanabe, T. Taniguchi, and J. C. Hone, "Deterministic exfoliation of n-layer transition metal dichalcogenides", *ACS Nano*, vol. 20, no. 10, pp. 8570–8578, Mar. 17, 2026, ISSN: 1936-0851.

[6] Y. H. Zeng, D. H. Sun, N. Y. J. Zhang, R. Q. Nguyen, Q. H. Shi, A. Okounkova, K. Watanabe, T. Taniguchi, J. Hone, C. R. Dean, and J. I. A. Li, "Observation of a superfluid-to-insulator transition of bilayer excitons", *Nature*, vol. 650, no. 8100, pp. 86–92, Feb. 5, 2026, ISSN: 0028-0836.

[7] J. Amontree, A. Marchese, J. Pack, T. D. R. Chung, X. Z. Yan, Y. Borisenkov, B. R. Yang, K. Davis, K. Watanabe, T. Taniguchi, C. Dean, and J. Hone, "Moving beyond scotch tape: Scalable transfer of research-grade CVD graphene", *Nano Letters*, vol. 25, no. 43, pp. 15 572–15 578, Oct. 29, 2025, ISSN: 1530-6984.

[8] E. A. Arsenault, Y. L. Li, B. R. Yang, T. Taniguchi, K. Watanabe, J. C. Hone, C. R. Dean, X. D. Xu, and X. Y. Zhu, "Time-domain signatures of distinct correlated insulators in a moiré superlattice", *Nature Communications*, vol. 16, no. 1, p. 549, Jan. 9, 2025.

[9] J. Balgley, J. Park, X. J. Chu, E. G. Arnault, M. Gustafsson, L. Ranzani, M. Holbrook, Y. C. He, K. Watanabe, T. Taniguchi, D. Rhodes, V. Perebeinos, J. Hone, and K. C. Fong, "Crystalline superconductor-semiconductor josephson junctions for compact superconducting qubits", *Physical Review Applied*, vol. 24, no. 3, p. 034 016, Sep. 5, 2025, ISSN: 2331-7019.

[10] Y. H. Chen, P. Y. Lo, K. W. Boschen, C. E. Hsu, Y. N. Hsu, L. N. Holtzman, G. H. Peng, C. J. Huang, M. Holbrook, W. H. Wang, K. Barmak, J. Hone, P. Hawrylak, H. C. Hsueh, J. A. Davis, S. J. Cheng, M. S. Fuhrer, and S. Y. Chen, "Efficient light upconversion via resonant exciton-exciton annihilation of dark excitons in few-layer transition metal dichalcogenides", *Nature Communications*, vol. 16, no. 1, p. 2935, Mar. 26, 2025.

[11] Y. J. Guo, J. Pack, J. Swann, L. Holtzman, M. Cothrine, K. Watanabe, T. Taniguchi, D. G. Mandrus, K. Barmak, J. Hone, A. J. Millis, A. Pasupathy, and C. R. Dean, "Superconductivity in 5.0° twisted bilayer WSe2", *Nature*, vol. 637, no. 8047, pp. 839–845, Jan. 23, 2025, ISSN: 0028-0836.

[12] M. Holbrook, L. N. Holtzman, B. W. Hou, L. Nashabeh, D. Y. Qiu, K. Barmak, A. N. Pasupathy, and J. C. Hone, "Revealing substitutional oxygen as the dominant defect in flux-grown transition metal diselenides", *Nano Letters*, vol. 25, no. 37, pp. 13 795–13 801, Sep. 17, 2025, ISSN: 1530-6984.

[13] Y. X. Li, C. Q. Shi, F. Zhang, X. H. Liu, Y. Xue, V. A. Ha, Q. Gao, C. Y. Dong, Y. C. Lin, L. N. Holtzman, N. Morales-Duran, H. Kim, Y. Jiang, M. Holbrook, J. Hone, K. Barmak, J. A. Robinson, X. Q. Li, F. Giustino, E. Khalaf, Y. M. Han, and C. K. Shih, "Robust supermoiré pattern in large-angle single-twist bilayers", *Nature Physics*, vol. 21, no. 7, pp. 1085–1092, Jul. 2025, ISSN: 1745-2473.

[14] N. Liu, L. C. Xiao, Y. X. Liu, Y. N. Tang, Y. C. Ma, S. S. Mohajerani, Y. Luo, J. Hone, and S. Strauf, "Brightening of optical forbidden interlayer quantum emitters in WSe2 homobilayers", *ACS Nano*, vol. 19, no. 8, pp. 7877–7883, Feb. 19, 2025, ISSN: 1936-0851.

[15] S. S. Mohajerani, A. Noual, Y. C. Ma, D. Koneru, P. Kumar, Y. N. Tang, L. C. Xiao, S. W. Chen, Y. X. Liu, J. Hone, E. H. Yang, and S. Strauf, "Acoustic manipulation of deterministic quantum emitters in WSe2", *ACS Nano*, vol. 19, no. 28, pp. 25 851–25 859, Jul. 22, 2025, ISSN: 1936-0851.

[16] S. L. Moore, H. Y. Lee, N. Rivera, Y. Karube, M. Ziffer, E. S. Yanev, T. P. Darlington, A. J. Sternbach, M. A. Holbrook, J. Pack, X. Xu, C. R. Dean, J. S. Owen, P. J. Schuck, M. Delor, X. Y. Zhu, J. Hone, and D. N. Basov, "Van der waals waveguide quantum electrodynamics probed by infrared nano-photoluminescence", *Nature Photonics*, vol. 19, no. 8, pp. 833–839, Aug. 2025, ISSN: 1749-4885.

[17] S. L. Moore, M. S. Sánchez, M. C. Strasbourg, Y. Shao, J. Pack, Y. Wang, D. J. Rizzo, B. S. Jessen, M. Cothrine, D. G. Mandrus, T. Taniguchi, K. Watanabe, K. S. Burch, C. R. Dean, J. Hone, M. Fogler, A. J. Millis, A. Rubio, P. J. Schuck, T. Stauber, and D. N. Basov, "Collective modes in multilayer graphene/ -RuCl3 heterostructures", *Physical Review X*, vol. 15, no. 4, p. 041 011, Oct. 21, 2025, ISSN: 2160-3308.

[18] T. Norden, L. M. Martinez, N. Tarefder, K. W. C. Kwock, L. M. McClintock, N. Olsen, L. N. Holtzman, J. H. Yeo, L. Y. Zhao, X. Y. Zhu, J. C. Hone, J. Yoo, J. X. Zhu, P. J. Schuck, A. J. Taylor, R. P. Prasankumar, W. J. M. Kort-Kamp, and P. Padmanabhan, "Twisted nonlinear optics in monolayer van der waals crystals", *ACS Nano*, vol. 19, no. 34, pp. 30 919–30 929, Sep. 2, 2025, ISSN: 1936-0851.

[19] N. Olsen, S. Yoon, M. Holbrook, M. Thinel, L. N. Holtzman, Y. F. Liu, V. L. R. Hsieh, Y. L. Li, D. D. Xu, E. Rojas-Gatjens, D. Gavilanes, T. Handa, E. A. Arsenault, C. Y. Huang, Y. J. Guo, C. R. Dean, K. Barmak, A. N. Pasupathy, J. C. Hone, and X. Y. Zhu, "Macroscopic transition metal dichalcogenide monolayers from gold-tape exfoliation retain intrinsic properties", *Nano Letters*, vol. 25, no. 42, pp. 15 198–15 205, Oct. 22, 2025, ISSN: 1530-6984.

[20] A. Rajendran, Z. Wang, T. Darlington, Y. Guo, J. Amontree, K. W. C. Kwock, L. N. Holtzman, K. Watanabe, T. Taniguchi, K. Barmak, C. Dean, J. Schuck, H. Y. Lee, and J. Hone, "High-performance p-type transistor in monolayer 2h-MoTe2", *The Journal of Physical Chemistry C*, vol. 129, no. 5, pp. 2830–2836, Feb. 6, 2025, ISSN: 1932-7447.

[21] E. M. Shih, Q. H. Shi, D. Rhodes, B. Kim, K. Watanabe, T. Taniguchi, K. Yang, J. Hone, and C. R. Dean, "Spin-selective magneto-conductivity in WSe2", *Nature Physics*, vol. 21, no. 8, pp. 1231–1236, Aug. 2025, ISSN: 1745-2473.

[22] M. C. Strasbourg, E. S. Yanev, S. Parvez, J. Stage, T. P. Darlington, S. Liu, M. A. Holbrook, J. C. Hone, P. J. Schuck, and N. J. Borys, "Structure-dependent dynamics of quantum emitters in single-layer WSe2", *Nano Letters*, vol. 25, no. 25, pp. 10 254–10 261, Jun. 11, 2025, ISSN: 1530-6984.

[23] H. Y. L. Thi, I. Uddin, N. A. N. Phan, M. A. Khan, C. T. Liang, C. S. Chuang, C. Lee, L. N. Holtzman, K. Barmak, K. Watanabe, T. Taniguchi, J. Hone, Y. D. Kim, W. J. Yoo, and G. H. Kim, "Negative differential transconductance in MoSe2/h-BN/WSe2 vertical structure", *Applied Materials Today*, vol. 44, p. 102 725, Jun. 2025, ISSN: 2352-9407.

[24] Y. P. Wang, J. Choe, E. Anderson, W. J. Li, J. Ingham, E. A. Arsenault, Y. L. Li, X. D. Hu, T. Taniguchi, K. Watanabe, X. Roy, D. Basov, D. Xiao, R. Queiroz, J. C. Hone, X. D. Xu, and X. Y. Zhu, "Hidden states and dynamics of fractional fillings in twisted MoTe2 bilayers", *Nature*, vol. 641, no. 8065, pp. 1149–1155, May 2025, ISSN: 0028-0836.

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