

SUSAN E. CLARK

Curriculum Vitae

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APPOINTMENTS

Stanford University

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| Assistant Professor, Department of Physics | 2021 – present |
| Co-Director, Center for Decoding the Universe @ Stanford | 2024 – present |

Institute for Advanced Study

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| NASA Hubble Fellow, Member | 2017 – 2021 |
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EDUCATION

Columbia University

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| Ph.D., Astrophysics | 2017 |
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Dissertation: *Magnetic Fields in the Interstellar Medium*

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| M.A., M.Phil, Astrophysics | 2014 |
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The University of North Carolina at Chapel Hill

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| B.S., Physics | 2012 |
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HONORS & AWARDS

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| David Huntington Dean's Faculty Scholar | 2025 – 2028 |
| Dean's Award for Distinguished Teaching, Stanford School of Humanities and Sciences | 2024 – 2025 |
| Inspiring Early Academic Career Award, Stanford Faculty Women's Forum | 2025 |
| Helen B. Warner Prize, American Astronomical Society | 2025 |
| Chambers Fellow, Stanford University | 2024 – 2027 |
| Sloan Research Fellowship | 2024 |
| Terman Faculty Fellowship | 2021 |
| Hubble Fellowship | 2017 - 2020 |
| Institute for Advanced Study School of Natural Sciences Fellowship | 2020 - 2022 |
| Unsung Hero Award, Princeton Prison Teaching Initiative | 2019 |
| ASNY Graduate Student Paper Prize | 2016 |
| CCAPP Prize Prize in Cosmology and AstroParticle Physics | 2016 |
| PRL Editors' Recommendation Paper | 2015 |
| NSF Graduate Research Fellowship | 2012 – 2017 |
| Columbia Dean's Fellowship | 2012 – 2017 |
| Morehead-Cain Scholarship | 2008 – 2012 |
| Full scholarship to UNC-Chapel Hill | |

PUBLICATIONS

[Complete ADS record](#). [* = mentored student lead, underline = as a member of the Clark group]

Refereed journal articles

77. M. Nowotka*, **S.E. Clark**, B. Burkhart, L. Fissel, T.-C. Ching, T. Robishaw, C. Heiles. *Joint Analysis of HI Absorption Zeeman Measurements and the Morphology of Filamentary HI Emission*. 2025, [ApJ in press](#).
76. Y. Liu, S. Azzoni, **S.E. Clark**, B.S. Hensley, L. Vacher, D. Alonso, C. Baccigalupi, M.L. Brown, A. Carones, J. Chluba, J. Dunkley, C. Hervías-Caimapo, B.R. Johnson, N. Krachmalnicoff, G. Puglisi, M. Remazeilles, K. Wolz. *The Simons Observatory: Assessing the Impact of Dust Complexity on the Recovery of Primordial B-modes*. 2025, [submitted to JCAP](#).
75. M. Lei*, **S.E. Clark**, R. Morel, E. Allys, I.S. Butsky, C. Redshaw, D. Fielding. *Neutral gas phase distribution from HI morphology: phase separation with scattering spectra and variational autoencoders*. 2025, [accepted to ApJ](#).
74. E. Calabrese, J.C. Hill, H. Jense, A. La Posta, et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: DR6 Constraints on Extended Cosmological Models*. 2025, [submitted to JCAP](#).
73. T. Louis, A. La Posta, Z. Atkins, H. Jense, et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: DR6 Power Spectra, Likelihoods and Λ CDM Parameters*. 2025, [submitted to JCAP](#).
72. S. Naess, Y. Guan, A. Duivenvoorden, M. Hasselfield, Y. Wang, et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: DR6 Maps*. 2025, [submitted to JCAP](#).
71. The Pan-Experiment Galactic Science Group: J. Borrill, **S.E. Clark**, J. Delabrouille, A.V. Frolov, S. Ghosh, B.S. Hensley, M.D. Hicks, N. Krachmalnicoff, K. Lau, M.M. Norton, C. Pryke, G. Puglisi, M. Remazeilles, E. Russier, B. Thorne, J. Yao, A. Zonca. *Full-sky Models of Galactic Microwave Emission and Polarization at Sub-arcminute Scales for the Python Sky Model*. 2025, [ApJ 991, 23](#).
Leads: **S.E. Clark** and B.S. Hensley. [Author contribution statement](#).
70. Simons Observatory Collaboration et al. *The Simons Observatory: Science Goals and Forecasts for the Enhanced Large Aperture Telescope*. 2025, [submitted to JCAP](#).
Leads: **S.E. Clark** and J. Colin Hill. [Author contribution statement](#).
69. H. Chen, S. Stanimirović, N. Pingel, J. Dempsey, F. Buckland-Willis, **S.E. Clark**, D. Leahy, M.-Y. Lee, C. Lynn, C.E. Murray, H. Nguyen, L. Uscanga, J. van Loon, E. Vázquez-Semadeni. *A neutral hydrogen absorption study of cold gas in the outskirts of the Magellanic Clouds using the GASKAP-HI survey*. 2025, submitted.
68. B. Shane, B. Burkhart, L. Fissel, **S.E. Clark**, P. Mocz, M.M. Foley. *Tracing 3-D Magnetic Field Structure Using Dust Polarization and the Zeeman Effect*. 2025, [submitted](#).
67. A. Hacar, R. Konietzka, D. Seifried, **S.E. Clark**, A. Socci, F. Bonanomi, A. Burkert, E. Schisano, J. Kainulainen, R. Smith. *Emergence of high-mass stars in complex fiber networks (EMERGE) V. From filaments to spheroids: the origin of the hub-filament systems*. 2024, [A&A 694, A69](#).
66. H. Nguyen, N.M. McClure-Griffiths, J. Dempsey, J.M. Dickey, M.-Y. Lee, C. Lynn, C.E. Murray, S. Stanimirović, M. Busch, **S.E. Clark**, J. Dawson, H. Dénes, S. Gibson, K. Jameson, G. Joncas, I. Kemp, D. Leahy, Y.K. Ma, A. Marchal, M.-A. Miville-Deschênes. *Local HI Absorption towards the Magellanic Cloud foreground using ASKAP*. 2024, [MNRAS 534, 3478](#).
65. T. Dacunha*, S. Martin-Alvarez, **S.E. Clark**, E. Lopez-Rodriguez. *The fallibility of equipartition magnetic field strengths from synchrotron emission using synthetically observed galaxies*. 2024, [ApJ 980, 197](#).
64. E. Biermann, Y. Li, S. Naess, S. Choi, **S.E. Clark**, M. Devlin, J. Dunkley, P. Gallardo, Y. Guan, A. Foster, M. Hasselfield, C. Hervías-Caimapo, M. Hilton, A. Hincks, A.Y.Q. Ho, J. Hood, K. Huf-fenberger, A. Kosowsky, M. Niemack, J. Orlowski-Scherer, L. Page, B. Partridge, M. Salatino, C.

- Sifón, S. Staggs, C. Vargas, E. Wollack. *The Atacama Cosmology Telescope: Systematic Transient Search of Single Observation Maps*. 2024, [ApJ 986, 7](#).
63. [G. Halal*](#), **S.E. Clark**, [M. Tahani](#). *Imprints of the Local Bubble and Dust Complexity on Polarized Dust Emission*. 2024, [ApJ 973, 54](#).
 62. [M. Lei*](#), **S.E. Clark**. *A New Constraint on the Relative Disorder of Magnetic Fields between Neutral ISM Phases*. 2024, [ApJ 972, 66](#).
 61. C. Hervías-Caimapo, A. Cukierman, P. Diego-Palazuelos, K. Huffenberger, **S.E. Clark**. *Modeling parity-violating spectra in Galactic dust polarization with filaments and its applications to cosmic birefringence searches*. 2024, [PRD 111, 083532](#).
 60. N. Raycheva, M. Haverkorn, S. Ideguchi, J.M. Stil, X. Sun, J.L. Han, E. Carretti, X.Y. Gao, A. Bracco, **S.E. Clark**, J.M. Dickey, B.M. Gaensler, A. Hill, T. Landecker, A. Ordog, A. Seta, [M. Tahani](#), M. Wolleben. *Faraday moments of the Southern Twenty-centimeter All-sky Polarization Survey (STAPS)*. 2024, [A&A 695, 101](#).
 59. G.V. Panopoulou, C. Zucker, D. Clemens, V. Pelgrims, J.D. Soler, **S.E. Clark**, J. Alves, A. Goodman, J. Becker Tjus. *The magnetic field of the Radcliffe Wave: starlight polarization at nearest approach to the Sun*. 2024, [A&A 694, 97](#).
 58. [S. Martin-Alvarez](#), [E. Lopez-Rodriguez](#), [T. Dacunha*](#), **S.E. Clark**, [A. Borlaff](#), R. Beck, F. Rodríguez Montero, S.L. Jung, J. Devriendt, A. Slyz, J. Roman-Duval, E. Ntormousi, [M. Tahani](#), K. Subramanian, D. Dale, P. Marcum, K. Tassis, I. del Moral-Castro, L.N. Tram, M. Jarvis. *Extragalactic Magnetism with SOFIA (SALSA Legacy Program). VII. A tomographic view of far infrared and radio polarimetric observations through MHD simulations of galaxies*. 2024, [ApJ 966, 43](#).
 57. V. Pelgrims, N. Mandarakas, R. Skolidis, K. Tassis, G.V. Panopoulou, V. Pavlidou, D. Blinov, S. Kiehlmann, **S.E. Clark**, B.S. Hensley, S. Romanopoulos, A. Basyrov, H.K. Eriksen, M. Falalaki, T. Ghosh, E. Gjerløw, J.A. Kypriotakis, S. Maharana, A. Papadaki, T.J. Pearson, S.B. Potter, A.N. Ramaprakash, A.C.S. Readhead, I.K. Wehus. *The first degree-scale starlight-polarization-based tomography map of the magnetized interstellar medium*. 2024, [A&A 684, A162](#).
 56. N. Mandarakas, G. Panopoulou, V. Pelgrims, S. Potter, V. Pavlidou, A. Ramaprakash, K. Tassis, D. Blinov, S. Kiehlmann, E. Koutsiona, S. Maharana, S. Romanopoulos, R. Skolidis, A. Vervelaki, **S.E. Clark**, J. Kypriotakis, A. Readhead. *Zero-polarization candidate regions for calibration of wide-field optical polarimeters*. 2024, [A&A 684, 132](#).
 55. W.R. Coulton, M. Madhavacheril, A. Duivenvoorden, J.C. Hill, et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: High-resolution component-separated maps across one-third of the sky*. 2024, [Physical Review D, 109, 063530](#).
 54. G. Coppi, S. Dicker, J. Aguirre, J. Austermann, J. Beall, **S.E. Clark**, E. Cox, M. Devlin, L. Fissel, N. Galitzki, B.S. Hensley, J. Hubmayr, S. Molinari, F. Nati, G. Novak, E. Schisano, J.D. Soler, C. Tucker, J. Ullom, A. Vaskuri, M. Vissers, J. Wheeler, M. Zannoni. *The BLAST Observatory: A Sensitivity Study for Far-IR Balloon-borne Polarimeters*. 2024, [PASP 136, 035003](#).
 53. J. Feng, R.J. Smith, A. Hacar, **S.E. Clark**, D. Seifried. *On the evolution of the observed Mass-to-Length relationship for star-forming filaments*. 2024, [MNRAS 528, 6370](#).
 52. M. Madhavacheril, F. Qu, B. Sherwin, N. MacCrann, Y. Li et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: DR6 Gravitational Lensing Map and Cosmological Parameters*. 2024, [ApJ 962, 113](#).
 51. F. Qu, B. Sherwin, M. Madhavacheril, D. Han, K. Crowley et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: A Measurement of the DR6 CMB Lensing Power Spectrum and its Implications for Structure Growth*. 2024, [ApJ 962, 112](#).

50. G. Halal*, **S.E. Clark**, A. Cukierman, D. Beck, C.-L. Kuo. *Filamentary Dust Polarization and the Morphology of Neutral Hydrogen Structures*. 2024, [ApJ 961, 29](#).
49. R. Córdova Rosado*, B. Hensley, **S.E. Clark**, A. Duivenvoorden, Z. Atkins, E. Battistelli, S.K. Choi, J. Dunkley, C. Hervías-Caimapo, Z. Li, T. Louis, S. Næss, L. Page, B. Partridge, C. Sifón, S.T. Staggs, C. Vargas, E.J. Wollack. *The Atacama Cosmology Telescope: Galactic Dust Structure and the Cosmic PAH Background in Cross-correlation with WISE*. 2024, [ApJ 960, 96](#).
48. A. Kim*, **S.E. Clark**, M. Putman, L. Li. *The Kinematic Structure of Magnetically Aligned HI Filaments*. 2023, [MNRAS 526, 4345](#).
47. I. Gerrard, C. Federrath, N. Pingel, N. McClure-Griffiths, A. Marchal, G. Joncas, **S.E. Clark**, S. Stanimirović, M.-Y. Lee, J. Th. van Loon, J. Dickey, H. Dénes, Y.K. Ma, J. Dempsey, C. Lynn. *A new method for spatially resolving the turbulence driving mixture in the ISM with application to the Small Magellanic Cloud*. 2023, [MNRAS 526, 982](#).
46. J. Clancy, G. Puglisi, **S.E. Clark**, G. Coppi, G. Fabbian, C. Hervías-Caimapo, J.C. Hill, F. Nati, C.L. Reichardt. *Polarization fraction of Planck Galactic cold clumps and forecasts for the Simons Observatory*. 2023, [MNRAS 524, 3712](#).
45. W. Sargent*, E. Lopez-Rodriguez, **S.E. Clark**. *The structure of magnetic fields in spiral galaxies: a radio and far-infrared polarimetric analysis*. 2023, [ApJ 954, 53](#).
44. U. Fuskeland et al. incl. **S.E. Clark**. *Tensor-to-scalar ratio forecasts for extended LiteBIRD frequency configurations*. 2023, [A&A 676, A42](#).
43. A. Borlaff, E. Lopez-Rodriguez, R. Beck, **S.E. Clark**, E. Ntormousi, K. Tassis, S. Martin-Alvarez, M. Tahani, D. Dale, I. del Moral Castro, J. Roman-Duval, P. Marcum, J. Beckman, K. Subramanian, S. Eftekharzadeh, L. Proudfit. *Extragalactic magnetism with SOFIA (SALSA Legacy Program) – V: First results on the magnetic field orientation of galaxies*. 2023, [ApJ 952, 4](#).
42. A. Hacar, **S.E. Clark**, F. Heitsch, J. Kainulainen, G. Panopoulou, D. Seifried, R. Smith. *Initial Conditions for Star Formation: A Physical Description of the Filamentary ISM*. 2023, Protostars and Planets VII, ASP Conference Series, Vol. 534, Edited by Shu-ichiro Inutsuka, Yuri Aikawa, Takayuki Muto, Kengo Tomida, and Motohide Tamura. San Francisco: [Astronomical Society of the Pacific](#), p.153
41. Y.K. Ma, N. McClure-Griffiths, **S.E. Clark**, S.J. Gibson, J. Th. van Loon, J. D. Soler, M. E. Putman, J. M. Dickey, M. -Y. Lee, K. E. Jameson, L. Uscanga, J. Dempsey, H. Dénes, C. Lynn, N. M. Pingel. *H I filaments as potential compass needles? Comparing the magnetic field structure of the Small Magellanic Cloud to the orientation of GASKAP-H I filaments*. 2023, [MNRAS 521, 60](#).
40. LiteBIRD Collaboration et al. incl. **S.E. Clark**. *Probing Cosmic Inflation with the LiteBIRD Cosmic Microwave Background Polarization Survey*. 2023, [PTEP 2023, 042F01](#).
39. M. Lei* & **S.E. Clark**. *Probing the cold neutral medium through HI emission morphology with the scattering transform*. 2023, [ApJ 947, 74](#).
38. A. Cukierman, **S.E. Clark**, G. Halal. *Magnetic Misalignment of Interstellar Dust Filaments*. 2023, [ApJ 946, 106](#).
37. BICEP/Keck Collaboration* incl. **S.E. Clark**. *BICEP / Keck XVI: Characterizing Dust Polarization Through Correlations with Neutral Hydrogen*. 2023, [ApJ 945, 72](#). Led by George Halal*.
36. CCAT-Prime collaboration incl. **S.E. Clark**, *CCAT-prime Collaboration: Science Goals and Forecasts with Prime-Cam on the Fred Young Submillimeter Telescope*. 2023, [ApJ Supplements 264, 7](#).

35. E. Lopez-Rodriguez, [A.S. Borlaff](#), R. Beck, W. Reach, S.A. Mao, E. Ntormousi, K. Tassis, [S. Martin-Alvarez](#), **S.E. Clark**, D. Dale, I. del Moral-Castro. *Extragalactic magnetism with SOFIA (SALSA Legacy Program). VI. The magnetic fields in the multi-phase interstellar medium of the Antennae galaxies*. 2023, [ApJ Letters](#), **942**, 13.
34. J. Hubmayr et al. incl. **S.E. Clark**. *Optical Characterization of OMT-Coupled TES Bolometers for LiteBIRD*. 2022, [Journal of Low Temperature Physics](#) **209**, 396.
33. E. Lopez-Rodriguez, S.A. Mao, R. Beck, [A. Borlaff](#), E. Ntormousi, K. Tassis, D. Dale, J. Roman-Duval, K. Subramanian, [S. Martin-Alvarez](#), P. Marcum, **S.E. Clark**, W. Reach, D. Harper, E. Zweibel. *Extragalactic magnetism with SOFIA (SALSA Legacy Program) – IV: Program overview and first results on the polarization fraction*. 2022, [ApJ](#) **936**, 92.
32. E. Lopez-Rodriguez, M. Clarke, S. Shenoy, W. Vacca, S. Coude, R. Arneson, P. Ashton, S. Eftekharzadeh, R. Beck, J. Beckman, [A. Borlaff](#), **S.E. Clark**, D. Dale, [S. Martin-Alvarez](#), E. Ntormousi, W. Reach, J. Roman-Duval, K. Tassis, D. Harper, P. Marcum. *Extragalactic magnetism with SOFIA (SALSA Legacy Program) – III: First data release and on-the-fly polarization mapping characterization*. 2022, [ApJ](#) **936**, 65.
31. B.S. Hensley, **S.E. Clark**, V. Fanfani, N. Krachmalnicoff, G. Fabbian, D. Poletti, G. Puglisi, G. Coppi, J. Nibauer, R. Gerasimov, N. Galitzki, S. Choi, P. Ashton, C. Baccigalupi, et al. *The Simons Observatory: Galactic Science Goals and Forecasts*. 2022, [ApJ](#) **929**, 166.
30. I. Lowe, B. Mason, T. Bhandarkar, **S.E. Clark**, M. Devlin, S. Dicker, S. Duff, R. Friesen, A. Hacar, B. Hensley, T. Mroczkowski, S. Naess, C. Romero, S. Sadavoy, M. Salatino, C. Sarazin, J. Orłowski-Scherer, A. Schillaci, J. Sievers, T. Stanke, A. Stutz, Z. Xu. *A study of 90 GHz dust emissivity on molecular cloud and filament scales*. 2022, [ApJ](#) **929**, 102.
29. J.L. Campbell*, **S.E. Clark**, B.M. Gaensler, A. Marchal, C.L. Van Eck, A.A. Deshpande, S.J. George, S.J. Gibson, R. Ricci, J.M. Stil, A.R. Taylor. *A Comparison of Multi-Phase Magnetic Field Tracers in a High-Galactic Latitude Region of the Filamentary Interstellar Medium*. 2022, [ApJ](#) **927**, 49.
28. N. M. Pingel, J. Dempsey, N. M. McClure-Griffiths, J. M. Dickey, K. E. Jameson, H. Arce, G. Anglada, J. Bland-Hawthorn, S. L. Breen, F. Buckland-Willis, **S. E. Clark**, J. R. Dawson, H. Dénes, E. M. Di Teodoro, B.-Q. For, Tyler J. Foster, J. F. Gómez, H. Imai, G. Joncas, C.-G. Kim, M.-Y. Lee, C. Lynn, D. Leahy, Y. K. Ma, A. Marchal, D. McConnell, et al. *GASKAP-HI Pilot Survey Science I: ASKAP Zoom Observations of HI Emission in the Small Magellanic Cloud*. 2022, [PASA](#) **39**, 5.
27. J.M. Dickey, J.M. Dempsey, N.M. Pingel, N.M. McClure-Griffiths, K. Jameson, J.R. Dawson, H. Dénes, **S.E. Clark**, D. Leahy, M.-Y. Lee, M.-A. Miville-Deschênes, S. Stanimirović, C.D. Tremblay, J. Th. van Loon. *GASKAP Pilot Survey Science II: ASKAP Zoom Observations of Galactic 21-cm Absorption*. 2022, [ApJ](#) **926**, 186.
26. S. Pearson, **S.E. Clark**, A.J. Demirjian, K.V. Johnston, M.K. Ness, T.K. Starkenburg, B.F. Williams, R.A. Ibata. *The Hough Stream Spotter: A new Method for Detecting Linear Structure in Resolved Stars and Application to the Stellar Halo of M31*. 2022, [ApJ](#) **926**, 166.
25. G. Panopoulou, **S.E. Clark**, A. Hacar, F. Heitsch, J. Kainulainen, E. Ntormousi, D. Seifried, R. J. Smith. *The width of Herschel filaments varies with distance (Corrigendum)*. 2022, [A&A](#) **663**, C1.
24. G. Panopoulou, **S.E. Clark**, A. Hacar, F. Heitsch, J. Kainulainen, E. Ntormousi, D. Seifried, R. J. Smith. *The width of Herschel filaments varies with distance*. 2022, [A&A Letters](#) **657**, 13.
23. E. Lopez-Rodriguez, R. Beck, **S.E. Clark**, A. Hughes, A. Borlaff, E. Ntormousi, [L. Grosset](#), K. Tassis, J. Beckman, K. Subramanian, D. Dale, T. Díaz-Santos. *Extragalactic magnetism with*

- SOFIA (Legacy Program) - II: A Magnetically Driven Flow in the Starburst Ring of NGC 1097.* 2021, [ApJ 923](#), 150.
22. A.J.M. Thomson, T.L. Landecker, N.M. McClure-Griffiths, J.M. Dickey, J.L. Campbell, E. Carretti, **S.E. Clark**, C. Federrath, B.M. Gaensler, J.L. Han, M. Haverkorn, A.S. Hill, S.A. Mao, A. Ordog, L. Pratley, W. Reich, C.L. Van Eck, J.L. West, M. Wolleben. *The Global Magneto-Ionic Medium Survey (GMIMS): The brightest polarized region in the Southern sky at 75 cm and its implications for Radio Loop II.* 2021, [MNRAS 507](#), 3495.
 21. A.S. Borlaff, E. Lopez-Rodriguez, R. Beck, R. Stepanov, E. Ntormousi, A. Hughes, K. Tassis, P. Marcum, L. Grosset, J. Beckman, L. Proudfit, **S.E. Clark**, T. Díaz-Santos, S.A. Mao, W. Reach, J. Roman-Duval, K. Subramanian, L.N. Tram, E. Zweibel. *Extragalactic Magnetism with SOFIA (Legacy Program) – I: The magnetic field in the multi-phase interstellar medium of M51.* 2021, [ApJ 921](#), 128.
 20. Yilun Guan*, **S.E. Clark**, B.S. Hensley, P.A. Gallardo, S. Naess, C. Duell, et al. *The Atacama Cosmology Telescope: Microwave Intensity and Polarization Maps of the Galactic Center.* 2021, [ApJ 920](#), 6.
 19. **S.E. Clark**, Chang-Goo Kim, J. Colin Hill, B.S. Hensley. *The Origin of Parity Violation in Polarized Dust Emission and Implications for Cosmic Birefringence.* 2021, [ApJ 919](#), 53.
 18. J.S. Oishi, K.J. Burns, **S.E. Clark**, E.H. Anders, B.P. Brown, G.M. Vasil, D Lecoanet. *eigentools: A Python package for studying differential eigenvalue problems with an emphasis on robustness.* 2021, [Journal of Open Source Software 6\(62\)](#), 3079.
 17. V. Pelgrims, **S.E. Clark**, B.S. Hensley, G. V. Panopoulou, V. Pavlidou, K. Tassis, H.K. Eriksen, I.K. Wehus. *Evidence for Line-of-Sight Frequency Decorrelation of Polarized Dust Emission in Planck Data.* 2021, [A&A 647](#), A16.
 16. Aiola et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: DR4 Maps and Cosmological Parameters.* 2020, [JCAP 12](#), 47.
 15. Choi et al. incl. **S.E. Clark**. *The Atacama Cosmology Telescope: A Measurement of the Cosmic Microwave Background Power Spectra at 98 and 150 GHz.* 2020, [JCAP 12](#), 45.
 14. **S.E. Clark** & B.S. Hensley. *Mapping the Magnetic Interstellar Medium in Three Dimensions Over the Full Sky with Neutral Hydrogen.* 2019, [ApJ 887](#), 2.
 13. J.E.G. Peek & **S.E. Clark**. *Small-Scale HI Channel Map Structure is Cold: Evidence from Na I Absorption at High Galactic Latitudes.* 2019, [ApJ Letters 886](#), 1.
 12. A.J.M. Thomson, T.L. Landecker, J.M. Dickey, N.M. McClure-Griffiths, M. Wolleben, E. Carretti, A. Fletcher, C. Federrath, A.S. Hill, S.A. Mao, B.M. Gaensler, M. Haverkorn, **S.E. Clark**, C.L. Van Eck, J.L. West. *Through thick or thin: Multiple components of the magneto-ionic medium towards the nearby HII region Sharpless 2-27 revealed by Faraday tomography.* 2019, [MNRAS 487](#), 4751.
 11. **S.E. Clark**, J.E.G. Peek, M.-A. Miville-Deschênes. *The physical nature of neutral hydrogen intensity structure.* 2019, [ApJ 874](#), 171.
 10. **S.E. Clark**. *A new probe of line-of-sight magnetic field tangling.* 2018, [ApJ Letters 857](#), L10.
 9. J.E.G. Peek, B.L. Babler, Y. Zheng, **S.E. Clark**, K.A. Douglas, E.J. Korpela, M.E. Putman, S. Stanimirović, S.J. Gibson, C. Heiles. *The GALFA-HI Survey Data Release 2.* 2018, [ApJ Supplements 234](#), 1.
 8. **S.E. Clark** & J.S. Oishi. *The weakly nonlinear magnetorotational instability in a global, cylindrical Taylor-Couette flow.* 2017, [ApJ 841](#), 2.

7. **S.E. Clark** & J.S. Oishi. *The weakly nonlinear magnetorotational instability in a local geometry*. 2017, [ApJ 841, 1](#).
6. F. Heitsch, B. Bartell, **S.E. Clark**, J.E.G. Peek, D. Cheng, M.E. Putman. *Three-dimensional orientation of compact high velocity clouds*. 2016, [MNRAS Letters 462, L46](#).
5. J. Malinen, L. Montier, J. Montillaud, M. Juvela, I. Ristorcelli, **S.E. Clark**, O. Berné, J.-Ph. Bernard, V.-M. Pelkonen, D.C. Collins. *Matching dust emission structures and magnetic field in high-latitude cloud L1642: comparing Herschel and Planck maps*. 2016, [MNRAS 460, 1934](#).
4. **S.E. Clark**, J. Colin Hill, J.E.G. Peek, M.E. Putman, B.L. Babler. *Neutral hydrogen structures trace dust polarization angle: Implications for cosmic microwave background foregrounds*. 2015, [PRL 115, 241302](#). Selected as PRL Editors' Recommendation.
3. N.M. McClure-Griffiths, S. Stanimirović, [5 authors], **S.E. Clark**, [3 authors]. *Galactic and Magellanic evolution with the SKA*. 2015, from "Advancing Astrophysics with the Square Kilometre Array", [PoS 130](#).
2. **S.E. Clark**, J.E.G. Peek, M.E. Putman. *Magnetically aligned HI fibers and the Rolling Hough Transform*. 2014, [ApJ 789, 82](#).
1. W.-H. Hsu, M.E. Putman, F. Heitsch, S. Stanimirović, J.E.G. Peek, **S.E. Clark**. *Physical properties of Complex C halo clouds*. 2011, [AJ 141, 57](#).

Conference proceedings

3. I. Lowe, G. Coppi, et al. incl. **S.E. Clark**. *The Balloon-borne Large Aperture Submillimeter Telescope Observatory*. 2020, in Proc. SPIE 11445, Ground-based and Airborne Telescopes VIII, 114457A. [arXiv:2012.01376](#)
2. **S.E. Clark**. *Galactic neutral hydrogen and the magnetic ISM foreground*. 2017, in Jelić & van der Hulst (Eds.) *Peering towards Cosmic Dawn*, Proceedings of the International Astronomical Union, Symposium No. 333, Dubrovnik, Croatia
1. **S.E. Clark**, J.E.G. Peek, J. Colin Hill, M.E. Putman. *Quantifying the magnetic alignment of HI and dust in the diffuse ISM*. 2016, in P. Jablonka, Ph. André, F. van der Tak (Eds.) *From Interstellar Clouds to Star-forming Galaxies: Universal Processes?* Proceedings of the International Astronomical Union Symposia and Colloquia, IAU 315, Honolulu, Hawaii

White papers, mission proposals, Research Notes, and Astronomer's Telegrams

13. A. Nuñez*, M. Tahani, **S.E. Clark**, E. Lopez-Rodriguez, C.L. Van Eck. *Consolidated Rotation Measure Catalog Update*. [RNAAS 8, 144](#).
12. J. J. Han et al. incl. **S.E. Clark**. *NANCY: Next-generation All-sky Near-infrared Community survey*. [arXiv:2306.11784](#)
11. K. Abazajian et al. incl. **S.E. Clark**. *Snowmass 2021 CMB-S4 White Paper*. [arXiv:2203.08024](#)
10. C. Chang et al. incl **S.E. Clark**. *Snowmass2021 Cosmic Frontier: Cosmic Microwave Background Measurements White Paper*. [arXiv:2203.07638](#)
9. K. Alexander, N. Battalia, T. Bhandarkar, **S.E. Clark**. *GBT/MUSTANG-2 90 GHz Observations of AT2022cmc*. [The Astronomer's Telegram, No. 15269](#). March 2022.
8. A. Lee et al. incl. **S.E. Clark**. *The Simons Observatory*. 2019, Astro2020 Decadal APC White Paper. [ADS](#)
7. S. Hanany et al. incl. **S.E. Clark**. *PICO: Probe of Inflation and Cosmic Origins*. 2019, Astro2020 Decadal APC White Paper. [arXiv:1908.07495](#)

6. The Simons Observatory Collaboration, incl. **S.E. Clark**. *The Simons Observatory: Astro2020 Decadal Project Whitepaper*. 2019. [arXiv:1907.08284](https://arxiv.org/abs/1907.08284)
5. L. Fissel, C.L.H. Hull, **S.E. Clark**, D.T. Chuss et al. *Studying Magnetic Fields in Star Formation and the Turbulent Interstellar Medium*. 2019, [Astro2020 Science White Paper no. 193](#).
4. **S.E. Clark**, C. Heiles, T. Robishaw. *Magnetic Fields and Polarization in the Diffuse Interstellar Medium*. 2019, Astro2020 Science White Paper. [Bulletin of the American Astronomical Society, Vol. 51, Issue 3, id. 390](#).
3. D. Stinebring, S. Chatterjee, **S.E. Clark**., J.M. Cordes, T. Dolch, C. Heiles, [12 authors]. *Twelve Decades: Probing the ISM from kiloparsec to sub-AU scales*. 2019, Astro2020 Science White Paper. [Bulletin of the American Astronomical Society, Vol. 51, Issue 3, id. 492](#).
2. B. Hensley et al. incl. **S.E. Clark**. *Determining the Composition of Interstellar Dust with Far-Infrared Polarimetry*. 2019, Astro2020 Science White Paper. [Bulletin of the American Astronomical Society, Vol. 51, Issue 3, id. 224](#).
1. S. Hanany et al. incl. **S.E. Clark**. *PICO: Probe of Inflation and Cosmic Origins*. 2019, Probe class mission study for NASA and 2020 Decadal Panel. [arXiv:1902.10541](https://arxiv.org/abs/1902.10541)

SCIENTIFIC PRESENTATIONS

Significant presentations since 2019. Career total: 115 presentations, including 86 invited talks/colloquia

Invited Conference Talks

- | | |
|---|------------|
| 62. Plenary talk, AAS 246, Anchorage, Alaska | June 2025 |
| 61. The Diffuse Gas in Galaxies: AAS Meeting-in-Meeting, Madison, Wisconsin | June 2024 |
| 60. Arthur M. Wolfe Symposium in Astrophysics, Scripps Institute for Oceanography, California March 2024 | |
| 59. Turbulence in the Universe, KITP, Santa Barbara, California | Feb. 2024 |
| 58. Scintillometry 2023, Taipei, Taiwan | Nov. 2023 |
| 57. From the Galaxy to the Big Bang, Banyuls-sur-Mer, France | June 2023 |
| 56. The Interstellar Institute: With Two Eyes, Orsay, France | July 2022 |
| 55. COSPAR 44th Scientific Assembly: Origins of Cosmic Rays, Athens, Greece | July 2022 |
| 54. Our Galactic Ecosystem: Opportunities and Diagnostics in the Infrared and Beyond, Lake Arrowhead, California | Feb. 2022 |
| 53. The Grand Cascade: The Evolution of Baryons Across Scales (<i>virtual</i>) | July 2021 |
| 52. CMB-S4 Collaboration Meeting (<i>virtual</i>) | March 2021 |
| 51. Arecibo Observatory Open House, AAS, Honolulu, Hawaii | Jan. 2020 |
| 50. <i>B</i> -Modes from Space, Garching, Germany | Dec. 2019 |
| 49. IEEE Workshop on Hyperspectral Image and Signal Processing, Amsterdam, The Netherlands | Sept. 2019 |
| 48. The Self-Organized Star Formation Process, Orsay, France | Sept. 2019 |
| 47. Pathways to the Future of Arecibo Observatory, San Juan, Puerto Rico | Feb. 2019 |

Invited Colloquia and Seminars

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| 46. Colloquium, Center for Astrophysics Harvard & Smithsonian | Nov. 2024 |
| 45. Texas A&M Mitchell Institute Seminar | Oct. 2024 |
| 44. Space and Cosmic Ray Physics Seminar, University of Maryland | April 2024 |
| 43. Colloquium, Yale University | Feb. 2024 |
| 42. Astrophysics Seminar, University of Pennsylvania | Jan. 2024 |

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| 41. Theoretical Astrophysics Seminar, UC Berkeley | Dec. 2023 |
| 40. Colloquium, University of Arizona Theory Colloquium | April 2023 |
| 39. Canadian Institute for Theoretical Astrophysics (CITA) Seminar, Toronto, Canada | April 2023 |
| 38. Colloquium, Southern Methodist University | Dec. 2022 |
| 37. Cardiff Astro Seminar (<i>virtual</i>) | Dec. 2022 |
| 36. IAPS Seminar, Istituto Nazionale di Astrofisica, Rome (<i>virtual</i>) | Oct. 2022 |
| 35. Colloquium, University of Nevada Las Vegas (<i>virtual</i>) | April 2022 |
| 34. Seminar, DESY Zeuthen (<i>virtual</i>) | April 2022 |
| 33. Colloquium, University of Southern California (<i>virtual</i>) | Dec. 2021 |
| 32. Colloquium, SOFIA Observatory (<i>virtual</i>) | Nov. 2021 |
| 31. Colloquium, SLAC National Lab (<i>virtual</i>) | Nov. 2021 |
| 30. Colloquium, Oskar Klein Center, Stockholm University (<i>virtual</i>) | June 2021 |
| 29. Colloquium, Munich Joint Astronomy Colloquium (<i>virtual</i>) | April 2021 |
| 28. Colloquium, Johns Hopkins University (<i>virtual</i>) | April 2021 |
| 27. Colloquium, University of British Columbia (<i>virtual</i>) | March 2021 |
| 26. Tuesday Astrophysics Seminar, University of Chicago (<i>virtual</i>) | March 2021 |
| 25. Colloquium, Columbia University (<i>virtual</i>) | Feb. 2021 |
| 24. Colloquium, Stanford Physics & Applied Physics (<i>virtual</i>) | Oct. 2020 |
| 23. Colloquium, Caltech | March 2020 |
| 22. Colloquium, UC Santa Cruz | Feb. 2020 |
| 21. Colloquium, UC Berkeley | Feb. 2020 |
| 20. Colloquium, University of Toronto | Feb. 2020 |
| 19. Colloquium, UC Santa Barbara | Jan. 2020 |
| 18. Colloquium, Stanford University | Jan. 2020 |
| 17. Colloquium, University of Virginia/NRAO | Nov. 2019 |
| 16. Colloquium, Cornell University | Nov. 2019 |
| 15. McGill Space Institute Seminar, Montreal, Canada | Nov. 2019 |
| 14. Queen's University Seminar, Kingston, Canada | Nov. 2019 |
| 13. Colloquium, University of Maryland, College Park | Oct. 2019 |
| 12. CITA Seminar, Toronto, Canada | Oct. 2019 |
| 11. Princeton Gravity Group Seminar, Princeton, New Jersey | Feb. 2019 |

Contributed Talks

| | |
|--|------------|
| 10. Scientific Frontiers for the DSA-2000 Radio Camera, Caltech, California | March 2023 |
| 9. CCAT-prime collaboration meeting (<i>virtual</i>) | April 2022 |
| 8. Modeling the Galactic Magnetic Field Conference (<i>virtual</i>) | Oct. 2021 |
| 7. IBEX Group Meeting (<i>virtual</i>) | Oct. 2021 |
| 6. Molecular Clouds, HII Regions, Interstellar Medium, AAS, Honolulu, Hawaii | Jan. 2020 |
| 5. Princeton/IAS Cosmology Lunch, Princeton, New Jersey | Oct. 2019 |
| 4. NASA Hubble Fellowship Program Symposium, Washington, D.C. | Oct. 2019 |
| 3. New Perspectives on Galactic Magnetism, Newcastle upon Tyne, England | June 2019 |
| 2. Hubble Fellows Symposium, Baltimore, Maryland | Mar. 2019 |
| 1. Big Apple Magnetic Fields, New York, New York | Jan. 2019 |

COURSES TAUGHT

Stanford

Physics 15: Stars and Planets in a Habitable Universe

Winter 2023 (47 students), Fall 2023 (43 students), Fall 2024 (42 students)

Physics 113: Computational Physics

Spring 2024 (35 students)

Physics 367: Physics of the Interstellar and Intergalactic Medium

Spring 2022 (10 graduate students)

Prison Teaching Initiative

Introduction to Astrophysics, Wagner Youth Correctional Facility

2019

Introduction to Astrophysics, East Jersey State Prison

2018

STUDENTS ADVISED

Graduate Students

Stanford Primary Ph.D. advisees

Kaitlyn Karpovich

2024 – present

Ben Dodge

2024 – present

Minjie Lei

2022 – present

Marta Nowotka

2021 – present

George Halal (Ph.D. 2024 → Member of the Technical Staff at Contextual AI)

2020 – 2024

Stanford Ph.D. rotation students (Physics, unless otherwise noted)

Katie Brown

2024

Ben Sherwin

2024

Annie Cheng

2024

Caleb Redshaw (Mech. Eng.)

2024

Jay Baptista

2023

Sean Liu

2023

Tara Dacunha

2022

Viraj Manwadkar

2022

Jack Dinsmore

2022

Charles Yang

2022

Stanford Master's students

Alejandro Dobles, Computer Science Master's student

2024

Iñigo Valenzuela Lombera, Applied Physics coterm

2020 – 2021

Substantial graduate mentorship outside Stanford

Rodrigo Córdova Rosado, Princeton University

2020 – 2024

Doyeon Avery Kim, Columbia University

2018 – 2023

Elizabeth Meador, Pittsburgh University

2021 – 2022

Jessica Campbell, University of Toronto

2017 – 2022

Undergraduate Students

Stanford or Summer Research Programs at Stanford (incl. CalBridge Summer and Leadership Alliance)

2025

Najem Abaakil, Sabine Mazzeo, Michelle Park

2024

Caio Gould, Emily Kim, Amber Yellow Horse, Jerry Yuan, Ziqian (Violet) Zhou, Carlos Rodriguez

2023

Yujina Basnet, Khwaish Billore, Gisselle Jimenez, Diego Brandon Maglione, Anthony Nuñez, Will Surgent, Patrick Tupoumalohi, Mark Ting Hong Zhu

2022

Laywood Fayne, Francesca Fernandes, Eliza Gallagher, Monica Hicks, Israel Reyes, Abraar Saleem, Will Surgent, Gabriel Muñoz Zarazua, Kendall Zylstra

2021

Laywood Fayne, Sally Jiang

Outside Stanford

| | |
|--------------------------------------|-------------|
| Alexis Demirjian, Barnard College | 2019 |
| Larry Li, Columbia University | 2016 – 2019 |
| Garrison Grogan, Columbia University | 2016 – 2017 |
| Lowell Schudel, Columbia University | 2014 – 2015 |

LEADERSHIP AND PROFESSIONAL SERVICE

Selected recent service to Stanford/KIPAC

| | |
|---|------------------|
| Chair, Physics Department Recruiting & Outreach Committee | 2022 – present |
| Physics Department Equity & Inclusion Committee | 2021 – 2024 |
| Chair, KIPAC Postdoctoral Fellowship Selection Committee | 2023 – 2024 |
| Chair, KIPAC Colloquium Committee | 2021 – present |
| KIPAC Postbac Fellows Advisor | 2023 – present |
| KIPAC Tea Committee | 2021 – 2023 |
| Co-Chair, KIPAC Equity & Inclusion Committee | 2021 – present |
| Stanford Science Fellows Astrophysics Selection Committee | 2021, 2022, 2023 |
| Co-Chair, KIPAC Postdoctoral Fellowship Selection Committee | 2022 – 2023 |
| Physics Department Graduate Student Admissions Committee | 2021 – 2022 |
| IDEAL Pedagogy Physics team | 2021 |

Selected recent service to the community

| | |
|--|----------------|
| CMB-S4 Governing Board (elected position) | 2025 – present |
| DSA-2000 Science Advisory Committee | 2022 – present |
| Simons Observatory Theory & Analysis Committee (elected position) | 2022 – present |
| Simons Observatory Publication Panel (elected position) | 2022 – 2025 |
| CMB-S4 - LiteBIRD Memorandum of Understanding writing team | 2022 |
| Department of Energy Analysis of Alternatives for CMB-S4: served on Tiger Team | 2022 |
| Scientific Organizing Committee: <i>Warm Ionized Medium in Galaxies</i> , Green Bank, West Virginia (2019); <i>Cosmology with CMB-S4</i> , virtual (2020); <i>Galactic Science & CMB Foregrounds</i> , Tenerife, Spain (2022); <i>Interstellar Institute 6</i> , Orsay, France (2023); <i>Cosmology with CMB-S4</i> , SLAC (2023); <i>Fields, Flows, & Filaments in the Magnetic ISM</i> , Stanford (2024); <i>Structure and polarization in the interstellar medium: A Conference in Honor of Prof. John Dickey</i> , Stanford (2025); <i>Data-Driven Discovery in the Rubin Era</i> , Stanford (2025); <i>Interstellar Institute 7</i> , Orsay, France (2025); <i>Rising Stars in Data Science</i> , Stanford (2025) | |
| CMB-S4 Collaboration Mentor | 2021 – 2022 |
| Board of Trustees, Association of Members of the Institute for Advanced Study | 2020 – 2024 |
| Referee, <i>ApJ</i> , <i>ApJL</i> , <i>A&A</i> , <i>Nature</i> , <i>Nature Astronomy</i> | |
| Reviewer/Panelist, NASA, NSF | |

Collaboration leadership roles

| | |
|--|----------------|
| Project Scientist, Advanced Simons Observatory | 2023 – present |
| Advisor, Simons Observatory Galactic Science Working Group | 2025 – present |

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| Co-lead, Simons Observatory Galactic Science Working Group | 2019 – 2025 |
| Founder and co-lead, Pan-Experiment Galactic Science Group | 2020 – present |
| Co-lead, Atacama Cosmology Telescope Galactic Science Working Group | 2019 – present |
| Co-lead, Magnetic Fields Science Working Group, CCAT-Prime collaboration | 2020 – present |
| Lead, Filaments Working Group, Galactic Australian SKA Pathfinder (GASKAP) | 2020 – 2021 |

Active collaboration member

Atacama Cosmology Telescope (ACT), BLAST Observatory, CCAT-Prime, CMB-S4, Galactic Australian SKA Pathfinder (GASKAP), Global Magneto-Ionic Medium Survey (GMIMS), LiteBIRD, PASIPHAE, Simons Observatory (SO), Via

SELECTED PUBLIC OUTREACH AND SERVICE

| | |
|---|-------------|
| KITP Chalk Talk, Public Lecture, Kavli Institute for Theoretical Physics | 2024 |
| Benjamin Dean Astronomy Lecture , California Academy of Sciences | 2023 |
| KIPAC Public Lecture (live-streamed on YouTube) | 2022 |
| Organizer, Speaker, Stanford Physics, Identity, and Equity Program | 2021–2023 |
| Professional Development Coordinator, SO-NSBP Summer Research Program | 2020 |
| Team Leader, Instructor, Prison Teaching Initiative | 2018 – 2019 |
| Public Talk, Astronomy on Tap, Trenton, New Jersey | 2019 |
| Invited Panelist, Conference for Undergraduate Women in Physics | 2018 |
| Volunteer, Reading Team Math Program , Harlem, New York | 2016 – 2017 |
| Instructor, Rooftop Variables , Curtis High School, Staten Island, New York | 2012 – 2017 |
| Outreach Volunteer, bi-weekly community stargazing, Columbia University | 2012 – 2017 |
| Public Lecture, <i>Our Magnetic Universe</i> , Columbia Astronomy Outreach Lecture Series | 2015 |
| Founder, President, Carolina Women in Physics | 2010 – 2012 |

OTHER PUBLISHED WRITING

Interstellar Magnetism, **S.E. Clark**, article, The Institute Letter, Spring 2019
Closing My Eyes, **S.E. Clark**, personal essay, The Washington Post Magazine, May 2009