

Curriculum Vitae: Steven R. Cranmer

Department of Astrophysical & Planetary Sciences (APS)
University of Colorado, UCB 600
LASP, 3665 Discovery Drive, Boulder, CO 80303

Phone: 1-303-735-1265
steven.cranmer@colorado.edu
<http://lasp.colorado.edu/~cranmer/>

- EMPLOYMENT** 2015–present: Associate Professor, APS Dept., University of Colorado
- HISTORY** 2011–2014: Lecturer on Astronomy, Harvard University
1996–2014: Astrophysicist, Smithsonian Astrophysical Observatory
- EDUCATION** Ph.D. Physics and Astronomy, University of Delaware, 1992–1996.
M.S. Astronomy, Ohio State University, 1990–1991.
B.S. Physics, Drexel University, 1985–1990, *summa cum laude*.
- RESEARCH INTERESTS** ★ Plasma physics and kinetic theory of waves and turbulence
★ Heating of the solar corona and acceleration of the solar wind
★ Stellar astrophysics, radiative transfer, and spectroscopy
- HONORS** ★ 2016 CU Boulder Faculty Teaching Excellence Program course development award
★ 2006 Karen Harvey Prize, Solar Physics Division of the AAS
★ SAO Performance Awards: 9 annual awards between 1999 and 2013.
★ 1997 Theodore Wolf Dissertation Prize, University of Delaware.
- TEACHING EXPERIENCE** ★ CU Astron. 1200: Stars & Galaxies (intro undergrad.): 2019
★ CU Astron. 3760: Solar & Space Physics (upper level undergrad.): 2015, 2017
★ CU Astron. 5120: Radiative & Dynamical Processes (graduate): 2016, 2018, 2019
★ CU Astron. 5700: Stellar Astrophysics (graduate): 2016, 2018
★ CU Astron. 7500: Special Topics (graduate): 2016
★ Taught 3 Harvard graduate-level Astron. courses (2012–2014).
★ Advised 5 grad. students (4 CU Boulder, 1 Harvard); 2 undergrad. students.
- SOCIETIES & ACTIVITIES** ★ Member of AAS (SPD Nominating Committee, 2014–2018), AGU, APS.
★ Associate Editor, *JGR Space Physics*, 2006–2009.
★ Daniel K. Inouye Solar Telescope (DKIST) Science Working Group, 2013–2018.
★ Head of Education Office: U. Colorado Space Weather Technology, Research, and Education Center (SWx TREC), 2017–present.
- SELECTED GRANTS** ★ PI, 15% support, NSF AAG Program, 2016–2020: “*Coronal Turbulence Driven from the Photosphere: Preparing for the DKIST Era*”
★ PI, 20% support, NASA Heliophysics Supporting Research, 2016–2020: “*Stirring Coronal Spaghetti: Density Fluctuations in the Solar Wind*”
★ PI, 30% support, NSF SHINE Program, 2013–2018: “*Accelerating the turbulent solar wind: One flux tube at a time*”
★ PI, 100% support, NASA Long-Term Space Astrophysics, 2004–2009: “*Waves and turbulence in stellar winds across the H–R diagram*”
★ Summary: brought in > \$3.2 million as PI from 2001 to present.
- MISSIONS** ★ Co-Investigator: SWEAP & FIELDS suites on *Parker Solar Probe*, 2010–present.
★ Co-Investigator: UVCS instrument on *SOHO*, 1996–2013.
- PUBLICATIONS** ★ 99 papers in refereed journals, 232 conference presentations (49 invited).
★ Chief editor for *SOHO–23* workshop proceedings (ASP Conf. Ser. 428, 2010).
★ Co-edited *Solar Wind 13* (2013) and *SOHO–7* (1999) conference proceedings.

BIBLIOGRAPHY

More complete and up-to-date listings, including links to many of the papers and presentations, online data, and other technical notes, can be found at: <http://lasp.colorado.edu/~cranmer/>

Publications in Refereed Journals

- ★ Cranmer, S. R., and Winebarger, A. R. 2019, “The Properties of the Solar Corona and Its Connection to the Solar Wind,” *Annual Review Astron. Astrophys.*, **57**, in press. [[arXiv](#)]
- ★ Cranmer, S. R. 2018, “Some Turbulent Predictions for Parker Solar Probe,” *Research Notes AAS*, **2**, 158. [[ADS](#)]
- ★ Cranmer, S. R. 2018, “Low-frequency Alfvén Waves Produced by Magnetic Reconnection in the Sun’s Magnetic Carpet,” *Astrophys. J.*, **862**, 6, 10 pages. [[ADS](#)]
- ★ MacGregor, M. A., Weinberger, A. J., Wilner, D. J., Kowalski, A. F., and Cranmer, S. R. 2018, “Detection of a Millimeter Flare from Proxima Centauri,” *Astrophys. J. Lett.*, **855**, L2, 6 pages. [[ADS](#)]
- ★ Owocki, S. P., and Cranmer, S. R. 2018, “Diffusion-plus-drift Models for the Mass Leakage from Centrifugal Magnetospheres of Magnetic Hot Stars,” *Mon. Not. R. Astr. Soc.*, **474**, 3090–3100. [[ADS](#)]
- ★ Van Kooten, S. J., and Cranmer, S. R. 2017, “Characterizing the Motion of Solar Magnetic Bright Points at High Resolution,” *Astrophys. J.*, **850**, 64, 10 pages. [[ADS](#)]
- ★ Cranmer, S. R., Gibson, S. E., and Riley, P. 2017, “Origins of the Ambient Solar Wind: Implications for Space Weather,” *Space Sci. Rev.*, **212**, 1345–1384. [[ADS](#)]
- ★ Cranmer, S. R. 2017, “Mass Loss Rates from Coronal Mass Ejections: A Predictive Theoretical Model for Solar-Type Stars,” *Astrophys. J.*, **840**, 114, 10 pages. [[ADS](#)]
- ★ Cranmer, S. R. 2016, “Predictions for Dusty Mass Loss from Asteroids during Close Encounters with Solar Probe Plus,” *Earth, Moon, and Planets*, **118**, 51–79. [[ADS](#)]
- ★ DeForest, C. E., Matthaeus, W. H., Viall, N. M., & Cranmer, S. R. 2016, “Fading Coronal Structure and the Onset of Turbulence in the Young Solar Wind,” *Astrophys. J.*, **828**, 66, 16 pages. [[ADS](#)]
- ★ Schiff, A., & Cranmer, S. R. 2016, “Explaining Inverted Temperature Loops in the Quiet Solar Corona with Magnetohydrodynamic Wave Mode Conversion,” *Astrophys. J.*, **831**, 10, 14 pages. [[ADS](#)]
- ★ MacGregor, M. A., Wilner, D. J., Chandler, C., Ricci, L., Maddison, S. T., Cranmer, S. R., Andrews, S. M., Hughes, A. M., & Steele, A. 2016, “Constraints on Planetesimal Collision Models in Debris Disks,” *Astrophys. J.*, **823**, 79, 14 pages. [[ADS](#)]
- ★ Narang, N., Tian, H., Banerjee, D., Arbacher, R., Cranmer, S. R., DeLuca, E., & McKillop, S. 2016, “Statistical Study of Network Jets Observed in the Solar Transition Region: A Comparison Between Coronal Holes and Quiet Sun Regions,” *Solar Phys.*, **291**, 1129–1142. [[ADS](#)]
- ★ Bale, S. D., Goetz, K., Harvey, P. R., et al. (83 authors in total, with S. R. Cranmer listed 20th out of 83) 2016, “The FIELDS Instrument Suite for Solar Probe Plus: Measuring the Coronal Plasma and Magnetic Field, Plasma Waves and Turbulence, and Radio Signatures of Solar Transients,” *Space Sci. Rev.*, **204**, 49–82. [[ADS](#)]

- ★ Kasper, J. C., Abiad, R., Austin, G., et al. (79 authors in total, with S. R. Cranmer listed 17th out of 79) 2016, “Solar Wind Electrons Alphas and Protons (SWEAP) Investigation: Design of the Solar Wind and Coronal Plasma Instrument Suite for Solar Probe Plus,” *Space Sci. Rev.*, **204**, 131–186. [\[ADS\]](#)
- ★ Cranmer, S. R., & Woolsey, L. N. 2015, “Driving Solar Spicules and Jets with Magnetohydrodynamic Turbulence: Testing a Persistent Idea,” *Astrophys. J.*, **812**, 71, 8 pages. [\[ADS\]](#)
- ★ Woolsey, L. N., & Cranmer, S. R. 2015, “Time-Dependent Turbulent Heating of Open Flux Tubes in the Chromosphere, Corona, and Solar Wind,” *Astrophys. J.*, **811**, 136, 13 pages. [\[ADS\]](#)
- ★ Cranmer, S. R., Asgari-Targhi, M., Miralles, M. P., Raymond, J. C., Strachan, L., Tian, H., and Woolsey, L. N. 2015, “The Role of Turbulence in Coronal Heating and Solar Wind Expansion,” *Phil. Trans. Royal Soc. A*, **373**, 20140148, 16 pages. [\[ADS\]](#)
- ★ Cranmer, S. R. 2014, “Suprathermal Electrons in the Solar Corona: Can Nonlocal Transport Explain Heliospheric Charge States?” *Astrophys. J. Lett.*, **791**, L31, 5 pages. [\[ADS\]](#)
- ★ Cranmer, S. R. 2014, “Ensemble Simulations of Proton Heating in the Solar Wind via Turbulence and Ion Cyclotron Resonance,” *Astrophys. J. Suppl.*, **213**, 16, 26 pages. [\[ADS\]](#)
- ★ Tian, H., DeLuca, E., Cranmer, S. R., De Pontieu, B., Peter, H., Martinez-Sykora, J., Golub, L., McKillop, S., Reeves, K. K., Miralles, M. P., McCauley, P., Saar, S., Testa, P., Weber, M., Murphy, N., Lemen, J., Title, A., Boerner, P., Hurlburt, N., Tarbell, T. D., Wuelser, J. P., Kleint, L., Kankelborg, C., Jaeggli, S., Carlsson, M., Hansteen, V., and McIntosh, S. W. 2014, “Prevalence of Small-scale Jets from the Networks of the Solar Transition Region and Chromosphere,” *Science*, **346**, 1255711, 4 pages + supplementary material. [\[ADS\]](#)
- ★ Woolsey, L. N., and Cranmer, S. R. 2014, “Turbulence-driven Coronal Heating and Improvements to Empirical Forecasting of the Solar Wind,” *Astrophys. J.*, **787**, 160, 12 pages. [\[ADS\]](#)
- ★ Raymond, J. C., McCauley, P. I., Cranmer, S. R., and Downs, C. 2014, “The Solar Corona as Probed by Comet Lovejoy (C/2011 W3),” *Astrophys. J.*, **788**, 152, 8 pages. [\[ADS\]](#)
- ★ Dupree, A. K., Brickhouse, N. S., Cranmer, S. R., Berlind, P., Strader, J., and Smith, G. H. 2014, “Structure and Dynamics of the Accretion Process and Wind in TW Hya,” *Astrophys. J.*, **789**, 27, 17 pages. [\[ADS\]](#)
- ★ Cranmer, S. R., Bastien, F. A., Stassun, K. G., and Saar, S. H. 2014, “Stellar Granulation as the Source of High-Frequency Flicker in Kepler Light Curves,” *Astrophys. J.*, **781**, 124, 8 pages. [\[ADS\]](#)
- ★ Cranmer, S. R., Wilner, D. J., and MacGregor, M. A. 2013, “Constraining a Model of Turbulent Coronal Heating for AU Microscopii with X-Ray, Radio, and Millimeter Observations,” *Astrophys. J.*, **772**, 149, 9 pages. [\[ADS\]](#)
- ★ Asgari-Targhi, M., van Ballegoijen, A. A., Cranmer, S. R., and DeLuca, E. E. 2013, “The Spatial and Temporal Dependence of Coronal Heating by Alfvén Wave Turbulence,” *Astrophys. J.*, **773**, 111, 12 pages. [\[ADS\]](#)
- ★ Cranmer, S. R., van Ballegoijen, A. A., and Woolsey, L. N. 2013, “Connecting the Sun’s High-Resolution Magnetic Carpet to the Turbulent Heliosphere,” *Astrophys. J.*, **767**, 125, 18 pages. [\[ADS\]](#)
- ★ Cranmer, S. R., and van Ballegoijen, A. 2012, “Proton, Electron, and Ion Heating in the Fast Solar Wind from Nonlinear Coupling Between Alfvénic and Fast-Mode Turbulence,” *Astrophys. J.*, **754**, 92, 29 pages. [\[ADS\]](#)
- ★ Cranmer, S. R. 2012, “Self Consistent Models of the Solar Wind,” *Space Sci. Rev.*, **172**, 145–156. [\[ADS\]](#)

- ★ Brickhouse, N. S., Cranmer, S. R., Dupree, A. K., Günther, H. M., Luna, G. J. M., and Wolk, S. J. 2012, “X-Ray Determination of the Variable Rate of Mass Accretion onto TW Hydrae,” *Astrophys. J. Lett.*, **760**, L21, 5 pages. [\[ADS\]](#)
- ★ Dupree, A. K., Brickhouse, N. S., Cranmer, S. R., Luna, G. J. M., Schneider, E. E., Bessell, M. S., Bonanos, A., Crause, L. A., Lawson, W. A., Mallik, S. V., and Schuler, S. C. 2012, “TW Hya: Spectral Variability, X-Rays, and Accretion Diagnostics,” *Astrophys. J.*, **750**, 73, 19 pages. [\[ADS\]](#)
- ★ Cranmer, S. R., and Saar, S. H. 2011, “Testing a Predictive Theoretical Model for the Mass Loss Rates of Cool Stars,” *Astrophys. J.*, **741**, 54, 23 pages. [\[ADS\]](#)
- ★ van Ballegooijen, A. A., Asgari-Targhi, M., Cranmer, S. R., and DeLuca, E. 2011, “Heating of the Solar Chromosphere and Corona by Alfvén Wave Turbulence,” *Astrophys. J.*, **736**, 3, 27 pages. [\[ADS\]](#)
- ★ Byhring, H. S., Cranmer, S. R., Lie-Svendensen, Ø., Habbal, S. R., and Esser, R. 2011, “Modeling Iron Abundance Enhancements in the Slow Solar Wind,” *Astrophys. J.*, **732**, 119, 12 pages. [\[ADS\]](#)
- ★ Cranmer, S. R., and van Ballegooijen, A. 2010, “Can the Solar Wind be Driven by Magnetic Reconnection in the Sun’s Magnetic Carpet?” *Astrophys. J.*, **720**, 824–847. [\[ADS\]](#)
- ★ Cranmer, S. R., Gardner, L. D., and Kohl, J. L. 2010, “A Model for the Stray Light Contamination of the UVCS Instrument on SOHO,” *Solar Phys.*, **263**, 275–291. [\[ADS\]](#)
- ★ Hollweg, J. V., Cranmer, S. R., and Chandran, B. D. G. 2010, “Coronal Faraday Rotation Fluctuations and a Wave/Turbulence-Driven Model of the Solar Wind,” *Astrophys. J.*, **722**, 1495–1503. [\[ADS\]](#)
- ★ Cranmer, S. R. 2010, “An Efficient Approximation of the Coronal Heating Rate for Use in Global Sun-Heliosphere Simulations,” *Astrophys. J.*, **710**, 676–688. [\[ADS\]](#)
- ★ van Ballegooijen, A. A., and Cranmer, S. R. 2010, “Tangled Magnetic Fields in Solar Prominences,” *Astrophys. J.*, **711**, 164–178. [\[ADS\]](#)
- ★ Brickhouse, N. S., Cranmer, S. R., Dupree, A. K., Luna, G. J. M., and Wolk, S. 2010, “A Deep Chandra X-ray Spectrum of the Accreting Young Star TW Hydrae,” *Astrophys. J.*, **710**, 1835–1847. [\[ADS\]](#)
- ★ Cranmer, S. R. 2009, “Coronal Holes,” *Living Reviews in Solar Physics*, **6**, 3 (66-page review paper). [\[ADS\]](#)
- ★ Cranmer, S. R. 2009, “Testing Models of Accretion-driven Coronal Heating and Stellar Wind Acceleration for T Tauri Stars,” *Astrophys. J.*, **706**, 824–843. [\[ADS\]](#)
- ★ Cranmer, S. R., Matthaeus, W. H., Breech, B. A., and Kasper, J. C. 2009, “Empirical Constraints on Proton and Electron Heating in the Fast Solar Wind,” *Astrophys. J.*, **702**, 1604–1614. [\[ADS\]](#)
- ★ Breech, B., Matthaeus, W. H., Cranmer, S. R., Kasper, J. C., and Oughton, S. 2009, “Electron and Proton Heating by Solar Wind Turbulence,” *J. Geophys. Res.*, **114**, A09103, 8 pages. [\[ADS\]](#)
- ★ Cranmer, S. R. 2009, “A Pulsational Mechanism for Producing Keplerian Disks around Be Stars,” *Astrophys. J.*, **701**, 396–413. [\[ADS\]](#)
- ★ Landi, E., and Cranmer, S. R. 2009, “Ion Temperatures in the Low Solar Corona: Polar Coronal Holes at Solar Minimum,” *Astrophys. J.*, **691**, 794–805. [\[ADS\]](#)
- ★ Cranmer, S. R. 2008, “Turbulence-driven Polar Winds from T Tauri Stars Energized by Magnetospheric Accretion,” *Astrophys. J.*, **689**, 316–334. [\[ADS\]](#)

- ★ Cranmer, S. R., Panasyuk, A. V., and Kohl, J. L. 2008, “Improved Constraints on the Preferential Heating and Acceleration of Oxygen Ions in the Extended Solar Corona,” *Astrophys. J.*, **678**, 1480–1497. [\[ADS\]](#)
- ★ Lin, J., Cranmer, S. R., and Farrugia, C. J. 2008, “Plasmoids in Reconnecting Current Sheets: Solar and Terrestrial Contexts Compared,” *J. Geophys. Res.*, **113**, A11107, 21 pages. [\[ADS\]](#)
- ★ van Ballegoijen, A. A., and Cranmer, S. R. 2008, “Hyperdiffusion as a Mechanism for Solar Coronal Heating,” *Astrophys. J.*, **682**, 644–653. [\[ADS\]](#)
- ★ Cranmer, S. R., van Ballegoijen, A., and Edgar, R. J. 2007, “Self-consistent Coronal Heating and Solar Wind Acceleration from Anisotropic Magnetohydrodynamic Turbulence,” *Astrophys. J. Suppl.*, **171**, 520–551. [\[ADS\]](#)
- ★ Kohl, J. L., Jain, R., Cranmer, S. R., Gardner, L. D., Pradhan, A. K., Raymond, J. C., and Strachan, L. 2007, “Next Generation UV Coronagraph Instrumentation for Solar Cycle 24,” *J. Astrophys. Astron.*, **29**, 321–327. [\[ADS\]](#)
- ★ Kohl, J. L., Noci, G., Cranmer, S. R., and Raymond, J. C. 2006, “Ultraviolet Spectroscopy of the Extended Solar Corona,” *Astron. Astrophys. Review*, **13**, 31–157 (127-page review paper). [\[ADS\]](#)
- ★ Cranmer, S. R. 2005, “A Statistical Study of Threshold Rotation Rates for the Formation of Disks around Be Stars,” *Astrophys. J.*, **634**, 585–601. [\[ADS\]](#)
- ★ Cranmer, S. R., and van Ballegoijen, A. 2005, “On the Generation, Propagation, and Reflection of Alfvén Waves from the Solar Photosphere to the Distant Heliosphere,” *Astrophys. J. Suppl.*, **156**, 265–293. [\[ADS\]](#)
- ★ Cranmer, S. R. 2004, “New views of the solar wind with the Lambert W function,” *American J. Phys.*, **72**, 1397–1403. [\[ADS\]](#)
- ★ Miralles, M. P., Cranmer, S. R., and Kohl, J. L. 2004, “Low-latitude coronal holes during solar maximum,” *Adv. Space Res.*, **33**, no. 5, 696–700. [\[ADS\]](#)
- ★ Cranmer, S. R., and van Ballegoijen, A. 2003, “Alfvénic Turbulence in the Extended Solar Corona: Kinetic Effects and Proton Heating,” *Astrophys. J.*, **594**, 573–591. [\[ADS\]](#)
- ★ Frazin, R. A., Cranmer, S. R., and Kohl, J. L. 2003, “Empirically Determined Anisotropic Velocity Distributions and Outflows of O^{5+} Ions in a Coronal Streamer at Solar Minimum,” *Astrophys. J.*, **597**, 1145–1157. [\[ADS\]](#)
- ★ Cranmer, S. R. 2002, “Coronal Holes and the High-Speed Solar Wind,” *Space Sci. Rev.*, **101**, 229–294 (65-page review paper). [\[ADS\]](#)
- ★ Dobrzycka, D., Cranmer, S. R., Raymond, J. C., Biesecker, D. A., and Gurman, J. B. 2002, “Polar Coronal Jets at Solar Minimum,” *Astrophys. J.*, **565**, 621–629. [\[ADS\]](#)
- ★ Dobrzycka, D., Raymond, J. C., and Cranmer, S. R. 2002, “Polar Coronal Jets,” *Adv. Space Res.*, **29**, no. 3, 337–341. [\[ADS\]](#)
- ★ Cranmer, S. R. 2001, “Ion Cyclotron Diffusion of Velocity Distributions in the Extended Solar Corona,” *J. Geophys. Res.*, **106**, 24937–24954. [\[ADS\]](#)
- ★ Miralles, M. P., Cranmer, S. R., and Kohl, J. L. 2001, “Ultraviolet Coronagraph Spectrometer Observations of a High-latitude Coronal Hole with High Oxygen Temperatures and the Next Solar Cycle Polarity,” *Astrophys. J. Letters*, **560**, L193–L196. [\[ADS\]](#)

- ★ Miralles, M. P., Cranmer, S. R., Panasyuk, A. V., Romoli, M., and Kohl, J. L. 2001, “Comparison of Empirical Models for Polar and Equatorial Coronal Holes,” *Astrophys. J. Letters*, **549**, L257–L260. [\[ADS\]](#)
- ★ Cranmer, S. R. 2000, “Ion Cyclotron Wave Dissipation in the Solar Corona: The Summed Effect of More than 2000 Ion Species,” *Astrophys. J.*, **532**, 1197–1208. [\[ADS\]](#)
- ★ Cranmer, S. R., Smith, M. A., and Robinson, R. D. 2000, “A Multiwavelength Campaign on γ Cassiopeiae. IV. The Case for Illuminated Disk-Enhanced Wind Streams,” *Astrophys. J.*, **537**, 433–447. [\[ADS\]](#)
- ★ Dobrzycka, D., Raymond, J. C., and Cranmer, S. R. 2000, “Ultraviolet Spectroscopy of Polar Coronal Jets,” *Astrophys. J.*, **538**, 922–931. [\[ADS\]](#)
- ★ Cranmer, S. R., Field, G. B., and Kohl, J. L. 1999, “Spectroscopic Constraints on Models of Ion Cyclotron Resonance Heating in the Polar Solar Corona and High Speed Solar Wind,” *Astrophys. J.*, **518**, 937–947. [\[ADS\]](#)
- ★ Cranmer, S. R., Kohl, J. L., Noci, G., Antonucci, E., Tondello, G., Huber, M. C. E., Strachan, L., Panasyuk, A. V., Gardner, L. D., Romoli, M., Fineschi, S., Dobrzycka, D., Raymond, J. C., Nicolosi, P., Siegmund, O. H. W., Spadaro, D., Benna, C., Ciaravella, A., Giordano, S., Habbal, S., Karovska, M., Li, X., Martin, R., Michels, J. G., Modigliani, A., Naletto, G., O’Neal, R. H., Pernechele, C., Poletto, G., Smith, P. L., and Suleiman, R. M. 1999, “An Empirical Model of a Polar Coronal Hole at Solar Minimum,” *Astrophys. J.*, **511**, 481–501. [\[ADS\]](#)
- ★ Kohl, J. L., Esser, R., Cranmer, S. R., Fineschi, S., Gardner, L. D., Panasyuk, A. V., Strachan, L., Suleiman, R. M., Frazin, R., and Noci, G. 1999, “EUV Spectral Line Profiles in Polar Coronal Holes from 1.3 to 3.0 R_{\odot} ,” *Astrophys. J. Letters*, **510**, L59–L62. [\[ADS\]](#)
- ★ Dobrzycka, D., Cranmer, S. R., Panasyuk, A. V., Strachan, L., and Kohl, J. L. 1999, “Study of the Latitudinal Dependence of H I Lyman Alpha and O VI Emission in the Solar Corona: Evidence for the Superradial Geometry of the Outflow in the Polar Coronal Holes,” *J. Geophys. Res.*, **104**, 9791–9800. [\[ADS\]](#)
- ★ Cranmer, S. R., Field, G. B., and Kohl, J. L. 1999, “Spectroscopic Constraints on Models of Ion-Cyclotron Resonance Heating in the Polar Solar Corona,” *Space Sci. Rev.*, **87**, 149–152. [\[ADS\]](#)
- ★ Kohl, J. L., Fineschi, S., Esser, R., Ciaravella, A., Cranmer, S. R., Gardner, L. D., Suleiman, R., Noci, G., and Modigliani, A. 1999, “UVCS/SOHO Observations of Spectral Line Profiles in Polar Coronal Holes,” *Space Sci. Rev.*, **87**, 233–236. [\[ADS\]](#)
- ★ Suleiman, R. M., Kohl, J. L., Panasyuk, A. V., Ciaravella, A., Cranmer, S. R., Gardner, L. D., Frazin, R., Hauck, R., Smith, P. L., and Noci, G. 1999, “UVCS/SOHO Observations of H I Lyman Alpha Line Profiles in Coronal Holes at Heliocentric Heights above 3.0 Solar Radii,” *Space Sci. Rev.*, **87**, 327–330. [\[ADS\]](#)
- ★ Gayley, K. G., Owocki, S. P., and Cranmer, S. R. 1999, “Line-Driven Ablation and Wind Tilting by External Irradiation,” *Astrophys. J.*, **513**, 442–459. [\[ADS\]](#)
- ★ Owocki, S. P., Cranmer, S. R., & Gayley, K. G. 1998, “Mass Loss from Rotating Hot-Stars: Inhibition of Wind Compressed Disks by Nonradial Line-forces,” *Astrophys. Space Sci.*, **260**, 149–159. [\[ADS\]](#)
- ★ Cranmer, S. R., Kohl, J. L., and Noci, G. 1998, “UVCS/SOHO: The First Two Years,” *Space Sci. Rev.*, **85**, 341–348. [\[ADS\]](#)
- ★ Cranmer, S. R. 1998, “Non-Maxwellian Redistribution in Solar Coronal Lyman Alpha Emission,” *Astrophys. J.*, **508**, 925–939. [\[ADS\]](#)

- ★ Kohl, J. L., Noci, G., Antonucci, E., Tondello, G., Huber, M. C. E., Cranmer, S. R., Strachan, L., Panasyuk, A. V., Gardner, L. D., Romoli, M., Fineschi, S., Dobrzycka, D., Raymond, J. C., Nicolosi, P., Siegmund, O. H. W., Spadaro, D., Benna, C., Ciaravella, A., Giordano, S., Habbal, S., Karovska, M., Li, X., Martin, R., Michels, J. G., Modigliani, A., Naletto, G., O’Neal, R. H., Pernechele, C., Poletto, G., Smith, P. L., and Suleiman, R. M. 1998, “UVCS/SOHO Empirical Determinations of Anisotropic Velocity Distributions in the Solar Corona,” *Astrophys. J. Letters*, **501**, L127–L131. [\[ADS\]](#)
- ★ Kohl, J. L., Noci, G., Antonucci, E., Tondello, G., Huber, M. C. E., Gardner, L. D., Nicolosi, P., Strachan, L., Fineschi, S., Raymond, J. C., Romoli, M., Spadaro, D., Panasyuk, A., Siegmund, O. H. W., Benna, C., Ciaravella, A., Cranmer, S. R., Giordano, S., Karovska, M., Martin, R., Michels, J., Modigliani, A., Naletto, G., Pernechele, C., Poletto, G., and Smith, P. L. 1997, “First Results from the SOHO Ultraviolet Coronagraph Spectrometer,” *Solar Phys.*, **175**, 613–644. [\[ADS\]](#)
- ★ Raymond, J. C., Kohl, J. L., Noci, G., Antonucci, E., Tondello, G., Huber, M. C. E., Gardner, L. D., Nicolosi, P., Fineschi, S., Romoli, M., Spadaro, D., Siegmund, O. H. W., Benna, C., Ciaravella, A., Cranmer, S., Giordano, S., Karovska, M., Martin, R., Michels, J., Modigliani, A., Naletto, G., Panasyuk, A., Pernechele, C., Poletto, G., Smith, P. L., Suleiman, R. M., Strachan, L., and van Ballegooijen, A. A. 1997, “Composition of Coronal Streamers from the SOHO Ultraviolet Coronagraph Spectrometer,” *Solar Phys.*, **175**, 645–665. [\[ADS\]](#)
- ★ Kohl, J. L., Noci, G., Antonucci, E., Tondello, G., Huber, M. C. E., Gardner, L. D., Nicolosi, P., Fineschi, S., Raymond, J. C., Romoli, M., Spadaro, D., Siegmund, O. H. W., Benna, C., Ciaravella, A., Cranmer, S. R., Giordano, S., Karovska, M., Martin, R., Michels, J., Modigliani, A., Naletto, G., Panasyuk, A., Pernechele, C., Poletto, G., Smith, P. L., and Strachan, L. 1997, “Measurements of H I and O VI Velocity Distributions in the Extended Solar Corona with UVCS/SOHO and UVCS/Spartan 201,” *Adv. Space Res.*, **20**, no. 1, 3. [\[ADS\]](#)
- ★ Fullerton, A. W., Massa, D. L., Prinja, R. K., Owocki, S. P., and Cranmer, S. R. 1997, “Wind Variability of B Supergiants: III. Corotating Spiral Structures in the Stellar Wind of HD 64760,” *Astron. Astrophys.*, **327**, 699–720. [\[ADS\]](#)
- ★ De Mey, K., Aerts, C., Waelkens, C., Cranmer, S. R., Schrijvers, C., Telting, J. H., Daems, K., and Meeus, G. 1997, “The Line-Profile Variable Lambda Scorpii is a Spectroscopic Triple System,” *Astron. Astrophys.*, **324**, 1096–1104. [\[ADS\]](#)
- ★ Gayley, K. G., Owocki, S. P., and Cranmer, S. R. 1997, “Sudden Radiative Braking in Colliding Hot-Star Winds,” *Astrophys. J.*, **475**, 786–797. [\[ADS\]](#)
- ★ Cranmer, S. R., and Owocki, S. P. 1996, “Hydrodynamical Simulations of Corotating Interaction Regions and Discrete Absorption Components in Rotating O-Star Winds,” *Astrophys. J.*, **462**, 469–488. [\[ADS\]](#)
- ★ Owocki, S. P., Cranmer, S. R., and Gayley, K. G. 1996, “Inhibition of Wind Compressed Disk Formation by Nonradial Line-Forces in Rotating Hot-Star Winds,” *Astrophys. J. Letters*, **472**, L115–L118. [\[ADS\]](#)
- ★ Owocki, S. P., Cranmer, S. R., and Fullerton, A. W. 1995, “Periodic Variations in UV Spectral Lines of the B0.5 Ib Star HD 64760: Evidence for Corotating Wind Streams Rooted in Surface Variations,” *Astrophys. J. Letters*, **453**, L37–L40. [\[ADS\]](#)
- ★ Gayley, K. G., Owocki, S. P., and Cranmer, S. R. 1995, “Momentum Deposition in Wolf-Rayet Winds: Nonisotropic Diffusion with Effective Gray Opacity,” *Astrophys. J.*, **442**, 296–310. [\[ADS\]](#)
- ★ Cranmer, S. R., and Owocki, S. P. 1995, “The Effect of Oblateness and Gravity Darkening on the Radiation Driving in Winds from Rapidly Rotating B Stars,” *Astrophys. J.*, **440**, 308–321. [\[ADS\]](#)

- ★ Owocki, S. P., Cranmer, S. R., and Blondin, J. 1994, “Two-Dimensional Hydrodynamical Simulations of Wind Compressed Disks around Rapidly Rotating B Stars,” *Astrophys. J.*, **424**, 887–904. [\[ADS\]](#)
- ★ Cranmer, S. R., and Collins, II, G. W. 1993, “The Effects of Zonal Atmospheric Currents on the Spectra of Rotating Early Type Stars,” *Astrophys. J.*, **412**, 720–730. [\[ADS\]](#)
- ★ Cranmer, S. R. 1993, “Some Aspects of Illuminated Model Atmosphere Theory as Applied to Close Binary Systems,” *Mon. Not. R. Astr. Soc.*, **263**, 989–998. [\[ADS\]](#)
- ★ Collins, II, G. W., and Cranmer, S. R. 1991, “Rotationally Induced Polarization in Pure Absorption Spectral Lines,” *Mon. Not. R. Astr. Soc.*, **253**, 167–174. [\[ADS\]](#)
- ★ Collins, II, G. W., Truax, R. J., and Cranmer, S. R. 1991, “Model Atmospheres for Rotating B Stars,” *Astrophys. J. Suppl.*, **77**, 541–606. [\[ADS\]](#)
- ★ Ali, B., Blum, R., Bumgardner, T., Cranmer, S. R., Ferland, G. J., Haefner, R., and Tiede, G. 1991, “The [Ne III–O II] Line Ratio as an Indicator of Helium Content in H II Regions,” *Publ. Astron. Soc. Pac.*, **103**, 1182–1186. [\[ADS\]](#)

Books Edited

- ★ Zank, G., Borovsky, J., Bruno, R., Cirtain, J., Cranmer, S., Elliott, H., Giacalone, J., Gonzalez, W., Li, G., Marsch, E., Moebius, E., Pogorelov, N., Spann, J., & Verkhoglyadova, O. (eds.) 2013, *Solar Wind 13: Proceedings of the Thirteenth International Solar Wind Conference*, AIP Conf. Proc. **1539**, ISBN 978-0-7354-1163-0. [\[ADS\]](#) [\[publisher site\]](#)
- ★ Cranmer, S. R., Hoeksema, J. T., & Kohl, J. L. (eds.) 2010, *Understanding a Peculiar Solar Minimum*, ASP Conf. Proc. **428**, Proceedings of the SOHO-23 Workshop, Northeast Harbor, Maine, 21 to 25 September 2009 (San Francisco: ASP), ISBN 978-1-58381-736-0. [\[ADS\]](#) [\[publisher site\]](#)
- ★ Kohl, J. L., & Cranmer, S. R. (eds.) 1999, *Coronal Holes and Solar Wind Acceleration*, Proceedings of the SOHO-7 Workshop, Northeast Harbor, Maine, 28 September to 1 October 1998, (Dordrecht: Kluwer), ISBN 0-7923-5828-7. Also published as vol. 87, no. 1–2 of *Space Science Reviews*. [\[ADS\]](#) [\[publisher site\]](#)

White Papers

- ★ Kohl, J. L., Cranmer, S. R., Raymond, J. C., Norton, T. J., Cucchiaro, P. J., Reisenfeld, D. B., Janzen, P. H., Chandran, B. D. G., Forbes, T. G., Isenberg, P. A., Panasyuk, A. V., and Ballegoijen, A. A. 2011, “The Coronal Physics Investigator (CPI) Experiment for ISS: A New Vision for Understanding Solar Wind Acceleration,” describing a proposed NASA Mission of Opportunity. [\[arXiv\]](#)
- ★ Cranmer, S. R., Kohl, J. L., Alexander, D., Bhattacharjee, A., Breech, B. A., Brickhouse, N. S., Chandran, B. D. G., Dupree, A. K., Esser, R., Gary, S. P., Hollweg, J. V., Isenberg, P. A., Kahler, S. W., Ko, Y.-K., Laming, J. M., Landi, E., Matthaeus, W. H., Murphy, N. A., Oughton, S., Raymond, J. C., Reisenfeld, D. B., Suess, S. T., van Ballegoijen, A. A., and Wood, B. E. 2010, “Ultraviolet Coronagraph Spectroscopy: A Key Capability for Understanding the Physics of Solar Wind Acceleration,” white paper submitted to the 2012 NRC Solar/Space Physics Decadal Survey. [\[arXiv\]](#)
- ★ Carpenter, K. G., Karovska, M., Schrijver, C. J., Grady, C. A., Allen, R. J., Brown, A., Cranmer, S. R., Dupree, A. K., Evans, N. R., Guinan, E. F., Harper, G., Labeyrie, A., Linsky, J., Peters, G. J., Roberge, A., Saar, S. H., Sonneborn, G., and Walter, F. M. 2009, “Mass Transport Processes and their Roles in the Formation, Structure, and Evolution of Stars and Stellar Systems,” white paper in support of *Stellar Imager* submitted to the 2010 Astronomy Decadal Survey. [\[arXiv\]](#)

Selected Conference Presentations (most recent 10 year period)

- ★ Cranmer, S. R., Berger, T. E., Raftery, C. L., and Thayer, J. P. 2019, “Graduate, Undergraduate, and Professional Education in Space Weather at the University of Colorado Boulder,” *99th Annual AMS Meeting, 16th Conference on Space Weather*, January 6-10, 2019, talk abstract 1.5.
- ★ Cranmer, S. R. 2018, “Unsolved Problems in the Middle Corona,” *Eos Trans. AGU*, Fall 2018 Meeting Suppl., abstract SH34A-01 (**Invited Talk**).
- ★ Gilbert, C., and Cranmer, S. R. 2018, “Refinement of a Semi-Empirical Model to Understand Spectroscopic Indications of Alfvén Waves in the Solar Corona,” *Eos Trans. AGU*, Fall 2018 Meeting Suppl., abstract SH33H-3729, poster.
- ★ Van Kooten, S. J., and Cranmer, S. R. 2018, “Investigating the Complex Motions of Photospheric Bright Points as a Lower Boundary Condition for Coronal Magnetism,” *Eos Trans. AGU*, Fall 2018 Meeting Suppl., abstract SH23C-3318, poster.
- ★ Gibson, S. E., DeForest, C., Cranmer, S. R., de Koning, C. A., Desai, M. I., Thompson, B. J., Viall, N. M., and Webb, D. F. 2018, “Mysteries of the Young Solar Wind,” *Eos Trans. AGU*, Fall 2018 Meeting Suppl., talk abstract SH43A-05.
- ★ Berger, T. E., Duncan, N. A., Baker, D. N., Thayer, J. P., Cranmer, S. R., Pankratz, C. K., Hurlburt, N. E., and Bosanac, N. 2018, “The Solar Polar Constellation (SPOC) Mission: Combining Operational Full-Sun Magnetic Field Measurements with Polar Exploration,” *Eos Trans. AGU*, Fall 2018 Meeting Suppl., abstract SH41E-3688, poster.
- ★ Cranmer, S. R. 2018, “Corotating Streams in Solar and Stellar Winds,” *Waves, Turbulence, and Large-scale Structures in Rotating Magnetic Fluids: Above and Beyond Geophysical Fluid Dynamics*, National Center for Atmospheric Research (NCAR) Geophysical Turbulence Program (GTP) Workshop, Boulder, Colorado, September 10–14, 2018 (**Invited Talk**).
- ★ MacGregor, M., Weinberger, A., Wilner, D., Kowalski, A., and Cranmer, S. 2018, “Detection of a Millimeter Flare from Proxima Centauri,” *20th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, Boston, Massachusetts, July 30–August 3, 2018, talk.
- ★ Gilbert, C., and Cranmer, S. R. 2018, “Modeling Spectroscopy to Understand Alfvén Waves and Turbulence in the Solar Corona,” *SHINE 2018 Workshop*, Cocoa Beach, Florida, July 30–Aug 3, 2018, poster. [[ADS](#)]
- ★ Molnar, M., Reardon, K., Chai, Y., and Cranmer, S. R. 2018, “Probing the Turbulent Quiet Chromosphere with ALMA, IRIS, and IBIS,” *IRIS–9 Workshop*, Göttingen, Germany, June 25–29, 2018, talk.
- ★ Cranmer, S. R. 2018, “Waves and Turbulence in the Solar Corona: A Surplus of Sources and Sinks,” *Bull. Am. Astr. Soc.*, AAS meeting 232, June 4–7, 2018, talk abstract 405.02. [[ADS](#)]
- ★ Cranmer, S. R. 2017, “Waves and Turbulence in the Solar Wind: Disputed Origins and Predicted PSP Spectra,” *Parker Solar Probe Science Working Group (SWG) Meeting*, Johns Hopkins Applied Physics Laboratory, Laurel, Maryland, October 2–6, 2017 (**Invited Talk**).
- ★ Cranmer, S. R. 2017, “Kinetic Effects in Coronal Holes and High-Speed Streams: A Roundup of Observational Constraints,” *SHINE 2017 Workshop*, Saint-Sauveur, Quebec, July 24–28, 2017, poster.
- ★ Gilbert, C., and Cranmer, S. R. 2017, “Relating Spectroscopic Measurements of the Solar Corona to Alfvén Waves and Turbulence,” *SHINE 2017 Workshop*, Saint-Sauveur, Quebec, July 24–28, 2017, poster.

- ★ Schiff, A. J., and Cranmer, S. R. 2017, “Exploring the Role of Nonlinear Mode Conversion in the Solar Corona,” *SHINE 2017 Workshop*, Saint-Sauveur, Quebec, July 24–28, 2017, poster.
- ★ Van Kooten, S. J., and Cranmer, S. R. 2017, “Characterizing the Motion of Photospheric Magnetic Bright Points at High Resolution,” *SHINE 2017 Workshop*, Saint-Sauveur, Quebec, July 24–28, 2017, poster.
- ★ Cranmer, S. R. 2017, “What Can Coronal Holes Tell Us About Ion Energization?” *16th RHESSI Workshop / 1st MinXSS Workshop*, Boulder, Colorado, June 19–24, 2017, poster.
- ★ DeForest, C. E., Matthaeus, W. H., Viall, N. M., and Cranmer, S. R. 2016, “Imaging the Top of the Solar Corona and the Young Solar Wind,” *Eos Trans. AGU*, Fall 2016 Meeting Suppl., abstract SH53A–05. [\[ADS\]](#)
- ★ Cranmer, S. R. 2016, “Leaves in the Wind: On the Variety of Radiative and MHD fluctuations in Rotating Solar/Stellar Outflows,” *Turbulence and Waves in Flows Dominated by Rotation*, National Center for Atmospheric Research (NCAR) Geophysical Turbulence Program (GTP) Workshop, Boulder, Colorado, August 15–19, 2016 (**Invited Talk**). [\[video link\]](#)
- ★ Cranmer, S. R. 2016, “How Important is Alfvén Wave Heating?” *SHINE 2016 Workshop*, Santa Fe, New Mexico, July 11–15, 2016 (**Invited Scene-setting Talk**).
- ★ Cranmer, S. R. 2016, “The Origin and Variability of the Slow Solar Wind,” *The Scientific Foundations of Space Weather*, Workshop of the International Space Science Institute (ISSI), Bern, Switzerland, June 27 to July 1, 2016 (**Invited Talk**).
- ★ Cranmer, S. R. 2016, “Coronagraphs on the Frontier: Connecting Astronomy, Space Physics, and Plasma Physics,” *Exploring the Geospace Frontier: Quo Vadis?* NCAR Foothills Lab, Boulder, Colorado, May 25–27, 2016 (**Invited Talk**).
- ★ Cranmer, S. R. 2016, “Predictions for Dusty Mass Loss from Asteroids during Close Encounters with Solar Probe Plus,” *Dusty Visions Workshop 2016*, Boulder, Colorado, July 22–24, 2016, poster.
- ★ Cranmer, S. R. 2016, “Stirring Coronal Spaghetti: Exploring Multiple Interactions Between MHD Waves and Density Fluctuations,” *Bull. Am. Astr. Soc.*, 2016 SPD meeting, Boulder, Colorado, talk abstract 201.04. [\[ADS\]](#)
- ★ Cranmer, S. R. 2015, “The Role(s) of Electrons in the Turbulent Corona and Solar Wind,” *SHINE 2015 Workshop*, Stowe, Vermont, July 6–10, 2015 (**Invited Scene-setting Talk**).
- ★ Cranmer, S. R. 2015, “Driving Jets and Spicules with Alfvén Waves: The Idea That Won’t Go Away,” *IRIS–4 Workshop*, Boulder, Colorado, May 18–22, 2015, contributed talk. [\[video link\]](#)
- ★ Cranmer, S. R. 2014, “Waves and Turbulence in the Corona and Solar Wind,” *SHINE 2014 Workshop*, Telluride, Colorado, June 23–27, 2014 (**Invited Scene-setting Talk**).
- ★ Cranmer, S. R. 2014, “Turbulence-Driven Solar Wind Models in 2014: Filling in the Gaps,” *SHINE 2014 Workshop*, Telluride, Colorado, June 23–27, 2014 (Poster).
- ★ Cranmer, S. R. 2014, “Solar/Stellar Granulation as the Key Lower Boundary Condition for Coronal Heating and Wind Acceleration,” *Bull. Am. Astr. Soc.*, AAS meeting 224, Talk 211.06. [\[ADS\]](#)
- ★ Cranmer, S. R., and Woolsey, L. N. 2013, “Turbulent Dissipation and Kinetic Heating in the Solar Wind: Benefits of an Ensemble Simulation Approach,” *Eos Trans. AGU*, Fall Meeting Suppl., abstract SH41F-04. (**Invited Talk**). [\[ADS\]](#)

- ★ Cranmer, S. R. 2013, “Turbulence as a Unifying Principle in Coronal Heating and Solar Wind Acceleration,” *2013 LWS/SDO Science Workshop*, Cambridge, Maryland, March 3–8, 2013 (**Invited Talk**).
- ★ Cranmer, S. R. 2012, “Stellar Wind Theory,” *Radio Stars and Their Lives in the Galaxy*, MIT Haystack Observatory Workshop, October 2012 (**Invited Talk**).
- ★ Cranmer, S. R. 2012, “Understanding the Origins of the Solar Wind,” *SHINE 2012 Workshop*, Wailea, Hawaii, June 2012 (**Invited Talk**).
- ★ Cranmer, S. R. 2012, “Connecting the Solar Wind to the Corona,” *From the Heliosphere to the Sun*, 511th Heraeus Seminar, Physikzentrum Bad Honnef, Germany, February 2012 (**Invited Talk**).
- ★ Cranmer, S. R., van Ballegooijen, A. A., & Woolsey, L. N. 2012, “New Models of Solar Wind Acceleration and Stream Interactions in the Sun’s Topologically Complex Magnetic Field,” *Eos Trans. AGU*, Fall Meeting Suppl., abstract SH53A-2266. [[ADS](#)]
- ★ Woolsey, L. N., and Cranmer, S. R. 2012, “A Magnetic Field Parameter Study of Turbulence-Driven Solar Wind,” *Eos Trans. AGU*, Fall 2012 Meeting Suppl., abstract SH33D-2252. [[ADS](#)]
- ★ Cranmer, S. R., Chandran, B. D. G., and van Ballegooijen, A. A. 2011, “Tools for Predicting the Rates of Turbulent Heating for Protons, Electrons, and Heavy Ions in the Solar Wind,” *Eos Trans. AGU*, Fall 2011 Meeting Suppl., abstract SH41C-04 (**Invited Talk**). [[ADS](#)]
- ★ Cranmer, S. R. 2011, “Telescoping in on the Microscopic Origins of the Fast Solar Wind,” *Eos Trans. AGU*, Fall 2011 Meeting Suppl., abstract SH43F-01 (**Invited Talk**). [[ADS](#)]
- ★ Cranmer, S. R. 2011, “Turbulent Heating of Protons, Electrons, and Heavy Ions in the Tangled and Twisted Solar Corona,” *2011 General Meeting of the Center for Magnetic Self-Organization (CMSO)*, Durham, New Hampshire, October 2011 (**Invited Talk**).
- ★ Cranmer, S. R. 2011, “The Physics of Coronal Heating and Solar Wind Acceleration: Ongoing Research and Unanswered Questions,” *IUGG General Assembly, IAGA Symposium A152*, Melbourne, Australia, July 2011 (**Invited Reporter’s Review**).
- ★ Kohl, J. L., Panasyuk, A. V., Cranmer, S. R., Raymond, J. C., and Rosati, R. E. 2011, “UVCS/ SOHO Search for Coronal Suprathermal Seed Particles: 2011 Campaign,” *Eos Trans. AGU*, Fall 2011 Meeting Suppl., abstract SH33D-05. [[ADS](#)]
- ★ Strachan, L., Cranmer, S. R., Panasyuk, A. V., Kohl, J. L., and Lamy, P. L. 2011, “Comparison of Velocity, Density, Temperature, and Mass Flux Results with Solar Coronal Models,” *Eos Trans. AGU*, Fall 2011 Meeting Suppl., abstract SH53C-07. [[ADS](#)]
- ★ Cranmer, S. R., & Saar, S. H. 2011, “Testing a Predictive Theoretical Model for the Mass Loss Rates of Cool Stars,” *Bull. Am. Astr. Soc.*, AAS Meeting 218 (Meeting-in-a-Meeting “What’s New under the Suns”), May 24, 2011, talk abstract 205.03. [[ADS](#)]
- ★ Cranmer, S. R. 2010, “Incorporating Kinetic Effects into Global Models of the Solar Wind,” *Eos Trans. AGU*, Fall Meeting Suppl., abstract SM33E-02 (**Invited Talk**).
- ★ Cranmer, S. R. 2010, “Turbulent Origins of the Sun’s Hot Corona and the Solar Wind,” *Waves and Turbulence in Solar-Terrestrial Plasmas*, Royal Astronomical Society Specialist Discussion Meeting, March 12, 2010, London (**Invited Talk**).
- ★ Cranmer, S. R. 2010, “Self Consistent Solar Wind Models,” *Multi-Scale Physics in Coronal Heating and Solar Wind Acceleration: From the Sun into the Inner Heliosphere*, Workshop of the International Space Science Institute (ISSI), January 25–29, 2010, Bern, Switzerland (**Invited Talk**). [[ADS](#)]

- ★ Cranmer, S. R., & Chandran, B. D. G. 2010, “A Summary of the Evidence in Favor of the Idea that the Solar Wind is Accelerated by Waves and/or Turbulence,” *SHINE 2010 Workshop*, Santa Fe, New Mexico, July 26-30, 2010.
- ★ Cranmer, S. R. 2010, “Testing Models of Coronal Heating, X-Ray Emission, and Winds from T Tauri Stars,” *Accretion Processes in X-Rays: From White Dwarfs to Quasars*, Chandra X-Ray Center (CXC) Workshop held in Boston, MA, July 13–15, 2010.
- ★ Isenberg, P. A., Vasquez, B. J., & Cranmer, S. R. 2010, “Modeling the preferential acceleration and heating of coronal hole O^{5+} as measured by UVCS/SOHO,” *Solar Wind 12: Proceedings of the Thirteenth International Solar Wind Conference*, AIP Conf. Proc. 1216, 56–59. [[ADS](#)]
- ★ Cranmer, S. R., Kohl, J. L., Miralles, M. P., and van Ballegooijen, A. A. 2009, “Extended Coronal Heating and Solar Wind Acceleration over the Solar Cycle,” *SOHO-23: Understanding a Peculiar Solar Minimum*, September 21–25, 2009, Northeast Harbor, Maine, ASP Conf. Ser. 428, p. 209 (**Invited Talk**). [[arXiv](#)] [[ADS](#)]
- ★ Cranmer, S. R. 2009, “Testing and Refining Models of Slow Solar Wind Acceleration,” *SHINE 2009 Workshop*, Wolfville, Nova Scotia, August 3–7, 2009 (**Invited Talk**).
- ★ Cranmer, S. R. 2009, “Ion Heating in the Solar Corona and Solar Wind,” *Bull. Am. Phys. Soc.*, April 2009 APS Meeting, **54** (4), 61 (**Invited Talk**).
- ★ Gardner, L. D., Kohl, J. L., Cranmer, S. R., Lin, M., Panasyuk, A. V., and Uzzo, M. 2009, “Variations in the Absolute Ultraviolet Intensities of Polar Coronal Holes,” *SOHO-23: Understanding a Peculiar Solar Minimum*, September 21-25, 2009, Northeast Harbor, Maine, ASP Conf. Ser. 428, p. 191. [[ADS](#)]
- ★ Brickhouse, N. S., Cranmer, S. R., Dupree, A. K., Luna, G. J. M., and Wolk, S. 2009, “Discovery of an Accretion-Fed Corona in an Accreting Young Star,” *Chandra’s First Decade of Discovery*, Proceedings of the conference held 22–25 September 2009, Boston, MA, ed. S. Wolk, A. Fruscione, D. Swartz, abstract 8. [[ADS](#)]
- ★ Cranmer, S. R. 2009, “Accretion-driven winds of T Tauri stars: A new generation of models with self-consistent coronal heating and MHD turbulence,” *15th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, St. Andrews, Scotland, July 21–25, 2008, AIP Conf. Ser. 1094, p. 357.
- ★ Shkolnik, E., Aigrain, S., Cranmer, S., Fares, R., Fridlund, M., Pont, F., Schmitt, J., Smith, A., and Suzuki, T. 2009, “Star-Planet Interactions,” *15th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, St. Andrews, Scotland, July 21–25, 2008, AIP Conf. Ser. 1094, p. 275. [[arXiv](#)]
- ★ Cranmer, S. R. 2008, “Applications of MHD Turbulence to Modeling Solar (and Stellar) Coronal Heating and Winds,” *Interface Between Plasma Dissipation Processes and MHD Turbulence in Space Plasmas*, Santa Fe, New Mexico, October 6–10, 2008 (**Invited Talk**).
- ★ Cranmer, S. R. 2008, “Turbulence and Waves as Sources for the Solar Wind,” *Eos Trans. AGU*, 89 (23), Joint Assembly Suppl., abstract SH34B-03 (**Invited Talk**). [[arXiv](#)]
- ★ Cranmer, S. R. 2008, “Modeling the solar wind: A survey of theoretical ideas for the origins of fast and slow streams,” *HELIOS-2008: The Second Heliospheric Network Workshop*, Kefalonia, Greece, May 6–9, 2008 (**Invited Talk**).
- ★ Cranmer, S. R. 2008, “Winds of Main-Sequence Stars: Observational Limits and a Path to Theoretical Prediction,” *14th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, Pasadena, CA, November 6–10, 2006, p. 317 (**Invited Talk**). [[arXiv](#)] [[ADS](#)]

- ★ Cranmer, S. R., and Saar, S. H. 2008, “Exoplanet-Induced Chromospheric Activity: Realistic Light Curves from Solar-type Magnetic Fields,” *14th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, Pasadena, CA, November 6–10, 2006, CD-ROM. [[arXiv](#)]
- ★ Dupree, A. K., Brickhouse, N. S., Avrett, E. H., Cranmer, S. R., and Szalai, T. 2008, “The Structured Chromosphere and Wind of TW Hya,” *14th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, Pasadena, CA, November 6–10, 2006, CD-ROM. [[arXiv](#)]

Colloquia, Seminars, and Outreach Presentations (most recent 10 year period)

- ★ Cranmer, S. R., “Turbulent Origins of Solar and Stellar Winds,” November 28, 2018, Colloquium, Columbia University Department of Astronomy.
- ★ Cranmer, S. R., three lectures for the 2018 Boulder Space Weather Summer School: (1) “Introduction and Overview,” (2) “The Solar Atmosphere,” and (3) “Modeling the Solar Wind and IMF with WSA-ENLIL.” July 9–20, 2018, High Altitude Observatory.
- ★ Cranmer, S. R., “Turbulent Origins of Solar-type Coronae and Winds: Current Thoughts,” May 31, 2018, ISSI Team Meeting on the Solar and Stellar Wind Connection: Heating Processes and Angular Momentum Loss (Skype talk).
- ★ Cranmer, S. R. “What do we know about the Physics of Energy Transport in Solar/Stellar Coronae and Winds?” April 3, 2018, talk at NSO’s monthly Solar Focus Meeting, Boulder.
- ★ Cranmer, S. R. “Parker Solar Probe: Will it Revolutionize Our Understanding of the Sun (and Exoplanets?),” March 15, 2018, invited presentation at Boulder Solar Day, High Altitude Observatory.
- ★ Cranmer, S. R., “Ripples in the Solar Wind,” December 4, 2017, University of Colorado Boulder, APS Department Undergraduate Research Symposium.
- ★ Cranmer, S. R., “Did Coronal Mass Ejections Contribute to the Young Sun’s Mass Loss?” February 15, 2017, talk at the CU/NSO Solar-Stellar Connections Workshop, Boulder.
- ★ Cranmer, S. R., “How Will DKIST Help Validate or Falsify Models of Coronal Heating From Waves/Turbulence?” February 14, 2017, talk at NSO’s monthly Solar Focus Meeting, Boulder.
- ★ Cranmer, S. R., “Circumstellar Turbulence: Is There Anything It Can’t Do?” October 13, 2016, Colloquium, High Altitude Observatory (HAO).
- ★ Cranmer, S. R., “Predictions for Dusty Mass Loss from Asteroids during Close Encounters with Solar Probe Plus,” October 7, 2016, science talk presented at the Solar Probe Plus (SPP) Science Working Group (SWG) teleconference.
- ★ Cranmer, S. R., “Turbulent Origins of Solar and Stellar Winds,” September 23, 2016, University of Colorado Boulder, Faculty Research Talk.
- ★ Cranmer, S. R., “Solar Wind Acceleration: Puzzles, Progress, and (DKIST) Prospects,” August 3, 2016, National Solar Observatory Brown Bag Lunch Talk, Boulder.
- ★ Cranmer, S. R., “Hale Collaborative Graduate Education (COLLAGE) Program Update,” May 11, 2016, National Solar Observatory Users’ Committee Meeting, Boulder.
- ★ Cranmer, S. R., “Turbulent Origins of Solar and Stellar Winds,” October 20, 2015, University of Colorado Boulder, Faculty Research Talk.

- ★ Cranmer, S. R., “Coronal Science: Preparing for the DKIST Era,” October 15, 2015, DKIST 2015 Science Working Group Meeting, Boulder, Colorado.
- ★ Cranmer, S. R., “Solar Magnetism and Activity: Progress, Puzzles, and Prospects,” September 2, 2015, *HAO: Past, Present, and Future: Three-day celebration of the 75th anniversary of the High Altitude Observatory*, Boulder, Colorado. [\[video link\]](#)
- ★ Cranmer, S. R., “Turbulent Origins of Solar and Stellar Winds,” May 7, 2015, Canadian Institute for Theoretical Astrophysics (CITA) Seminar, Toronto, Canada. [\[video link\]](#)
- ★ Cranmer, S. R., “Solar Wind Turbulent Dissipation: A Collisionless Zoo,” April 28, 2015, University of Colorado Boulder, LASP Friends of the Magnetosphere (FOM) Seminar.
- ★ Cranmer, S. R., “Solar and Stellar Winds: Progress, Puzzles, and Prospects,” March 5, 2015, University of Colorado Boulder, LASP Science Seminar.
- ★ Cranmer, S. R., “Turbulent Origins of Solar and Stellar Winds,” January 27, 2015, University of Colorado Boulder, Faculty Research Talk.
- ★ Cranmer, S. R., “Stellar Winds Across the H-R Diagram,” July 3, 2014, Harvard-Smithsonian CfA Summer Colloquium.
- ★ Cranmer, S. R., “Sweeping Overview of Plasma Diagnostics in Solar Physics and Astrophysics,” May 5, 2014, New England Space Science Consortium (NESSC) meeting on *Diagnostics in Laboratory, Heliospheric, and Astrophysical Plasmas*, Massachusetts Institute of Technology.
- ★ Cranmer, S. R., “Turbulent Origins of Solar and Stellar Winds,” November 20, 2013, Colloquium, High Altitude Observatory (HAO). [\[video link\]](#)
- ★ Cranmer, S. R., “Turbulent Origins of Coronal Heating and the Solar Wind,” October 29, 2013, New England Space Science Consortium (NESSC) meeting on *Turbulence in Laboratory, Heliospheric, and Astrophysical Plasmas*, Harvard-Smithsonian CfA.
- ★ Cranmer, S. R. “Studying the Sun: Why and How?” October 17, 2013, Solar BigData Video Conference, Harvard-Smithsonian CfA.
- ★ Cranmer, S. R. “Turbulence as a Unifying Principle in Coronal Heating and Solar/Stellar Wind Acceleration,” April 29, 2013, Harvard-Smithsonian CfA Solar, Stellar, and Planetary Sciences Division Seminar.
- ★ Cranmer, S. R. “How Stars Gain Mass,” April 15, 2013, Overview talk given to visiting students and faculty from Phillips Academy, Andover, Massachusetts.
- ★ Cranmer, S. R. “Turbulent Origins of the Solar Wind,” April 3, 2013, Brown University Astrophysics Seminar Series (‘BASS’), Providence, Rhode Island.
- ★ Cranmer, S. R., “Turbulent Origins of the Solar Wind,” July 27, 2012, Tutorial talk for solar REU (Research Experiences for Undergraduates) summer students.
- ★ Cranmer, S. R., “Turbulent Origins of the Sun’s Hot Corona and the Solar Wind,” September 22, 2011, Boston University, Center for Space Physics Seminar.
- ★ Cranmer, S. R., “The Solar Probe Plus Theory and Modeling Team: Exploring Predictions and Controversies,” March 8, 2011, talk given at the 2nd SWEAP Science Team Meeting, Harvard-Smithsonian CfA.
- ★ Cranmer, S. R., “Turbulent Origins of the Sun’s Hot Corona and the Solar Wind,” February 21, 2011, Colloquium, University of Iowa, Dept. of Physics and Astronomy.

- ★ Cranmer, S. R., “A Pulsational Mechanism for Producing Keplerian Disks Around Rapidly Rotating Stars,” November 18, 2010, talk at the Harvard-Smithsonian CfA ITC (Institute for Theory and Computation) Thursday Luncheon.
- ★ Cranmer, S. R., “Recent Progress in Wave/Turbulence Driven Models of Solar Wind Acceleration,” November 1, 2010, Harvard-Smithsonian CfA Solar, Stellar, and Planetary Sciences Division Seminar.
- ★ Cranmer, S. R., “New Insights into Heating the Solar Corona and Accelerating the Solar Wind,” March 31, 2010, University of New Hampshire, Space Science Seminar.
- ★ Cranmer, S. R., “Solar Physics: Our Nearest Star at the CfA,” February 16, 2010, Harvard Graduate Student Research Forum (GSRF) chalkboard talk.
- ★ Cranmer, S. R., “Plasma Unbound: New Insights into Heating the Solar Atmosphere and Accelerating the Solar Wind,” March 27, 2009, Weekly Seminar, University of Massachusetts Lowell, Center for Atmospheric Research.
- ★ Cranmer, S. R., “Plasma Unbound: New Insights into Coronal Heating and Solar/Stellar Winds,” March 4, 2009, Colloquium, High Altitude Observatory (HAO).
- ★ Cranmer, S. R., “Plasma Physics in the Solar System,” February 9, 2009, Harvard-Smithsonian CfA ITC (Institute for Theory and Computation) Monday Pizza Lunch Talk.
- ★ Cranmer, S. R., “Solar/Stellar Winds: An Overview,” October 27, 2008, New England Space Science Consortium, meeting 17, Harvard-Smithsonian CfA.
- ★ Cranmer, S. R., “MHD Turbulence in the Solar Corona and Solar Wind,” April 7, 2008, Harvard-Smithsonian CfA ITC (Institute for Theory and Computation) Turbulence Meeting.
- ★ Cranmer, S. R., “Turbulence-driven Polar Winds from T Tauri Stars Energized by Magnetospheric Accretion,” January 28, 2008, Harvard-Smithsonian CfA Solar, Stellar, and Planetary Sciences Division Seminar.