Dr. Bin Chen: Curriculum Vitae

Department of Physics

New Jersey Institute of Technology

Fax: (973) 596-3565

Fax: (973) 596-3617

Fax: (973) 596-3617

Fax: (973) 596-3617

Email: binchen[at]njit.edu

Newark, NJ 07102

http://binchensum.org

Education

University of Virginia	Charlottesville, VA	Astronomy	Ph.D.	08/2013
Dissertation: "Radio and X-r	ay Diagnostics of Ener	rgy Release in Sol	ar Flares", Adviso	r: Tim Bastian
Univ. of Chinese Academy of Sc.	Beijing, China	Astrophysics	M.S.	08/2008
Peking University	Beijing, China	Physics	B.S.	08/2005

Appointments

Associate Professor	New Jersey Institute of Technology	08/2019-present (tenure 2021)
Assistant Professor	New Jersey Institute of Technology	01/2016-08/2019
Astrophysicist	Center for Astrophysics Harvard & Smithsonian	08/2014-12/2015
Jack Eddy Postdoc Fellow	UCAR/NJIT	08/2013-07/2014

Honors & Awards

Karen Harvey Prize, Solar Physics Division, American Astronomical Society	2023
Research Advisor of the Year, Albert Dorman Honors College, New Jersey Institute of Technology	2020
CSLA Rising Star Research Award, New Jersey Institute of Technology	2018
An award given annually by NJIT's College of Science and Liberal Arts (CSLA) in recognition of a pre-tenure faculty member's outstanding scholarly work	
Faculty Early Career Development (CAREER) Award, National Science Foundation	2017
Jack Eddy Postdoctoral Fellowship, NASA/UCAR	2013
Competitive Postdoctoral fellowship by NASA's Living-with-a-Star program and UCAR	
Liu Yong Ling Scholarship, University of Chinese Academy of Sciences	2008
A scholarship of the University to recognize outstanding graduate students	

Professional Service

National Committees, Panels, and Boards

Member, Solar & Heliosphere Panel, NASEM Solar & Space Physics Decadal Survey 10/2022–present The Panel on the Physics of the Sun and Heliosphere is charged to provide an overview of the current state of solar and heliospheric research and identify the highest priority science goals for 2024–2033.

Committee member, Solar Physics Division of American Astronomical Society 2019–2021

Page 1 of 17 October 22, 2023

The Committee is charged to oversee general affairs of the Division; BC led the effort of compiling a List of Solar Physics Graduate Programs and made it available to community at the SPD website. He also organized the inaugural SPD Graduate Opportunity Fair in 2020.

Board member, SunPy	2019-2022
The Board is charged to lead the overall structure and direction of SunPy	
Meeting Organization	
SOC member, SPHERE Workshop	2023
SOC member, Solar & Space Physics Decadal Workshop: Ground-Based Projects	2022
SOC member, FASR 2021 Workshop	2021
SOC member, SolFER 2021 Conference	2021
Session Convener, Asia Oceania Geosciences Society	2021
"Coronal Magnetic Field Measurements Through Multi-wavelength Observations"	
Session Convener, American Geophysical Union Fall Meeting	2020
"Plasma Energization, Particle Acceleration, and High-energy Emission in Solar Flares"	
Working group (co-)leader, Solar Physics High Energy Research (SPHERE) Workshop	2022
"Unified 'systems science'" topical session	
Working group (co-)leader, for three (3) RHESSI Workshops	2015, 2017, 2019
"Radio and X-ray Flares" working group	
Session convener, for two (2) SHINE Conferences	2018, 2019
"Global implications of kinetic-scale particle acceleration throughout the heliosphere"	
Session Convener, Triennial Earth-Sun Summit (TESS)	2018
"Late-Phase Solar Activity in September 2017"	
Peer Review Activities	
Panelist, NRAO Science Review Panel	2020-2022
Panelist, for [3] NASA grant panels and [1] NSF grant panel	Since 2015
Mail-in Reviewer, for [6] grant proposals submitted to NASA or NSF funding programs	Since 2015
Panelist, NASA NPP Postdoc Fellowship proposals	2017
Mail-in reviewer, for [3] NASA NPP Postdoc Fellowship proposals	Since 2016
Poster Judge, SHINE conference, AAS/SPD meeting, and APS meeting	Since 2016
Referee, 28 papers for 11 journals	
Nature Astronomy [1], Astrophysical Journal [9], Astrophysical Journal Letters [4], Astrop	nomy
& Astrophysics [3], Solar Physics [4], Advances in Space Research [1], Publ. Astron. Soc.	
tralia [1], New Astronomy [2], J. Space Weather. Space Clim. [1], Research in Astronom	ny E
Astrophysics [1], Progress in Astronomy (天文学进展) [1]	
Journal Editing	

Journal Editing

Guest Editor, Frontiers in Astronomy and Space Sciences

2019-2021

Page 2 of 17 October 22, 2023

University & Departmental Service

Co-PI, NSF Geosciences

Committee Member, Applied Physics Graduate Program, NJIT	2020–present 2016–present
Member, Research Vision Subcommittee for NJIT 2025 Strategic Plan	2019-2020
Member, Search committee for a faculty position in material sciences	Fall 2018
Member, Advisory Board Committee on Research Cyberinfrastructure	2018-present
Awarded Grants	
As Principal Investigator	
PI, NSF Division of Atmospheric and Geospace Sciences	2023-2026
"MRI: Track 2 Development of EOVSA-15: Major Upgrade of a Community Facility for Sola and Space Weather Physics"	ır
PI, NSF Division of Atmospheric and Geospace Sciences (SHINE)	2023-2026
"Collaborative Research: Where are particles accelerated in coronal jets?" (lead of collaborative proposals: P. Kumar/NASA-GSFC)	l-
PI, NSF Division of Astronomical Sciences	2021-2024
"Collaborative Research: Achieving a New Understanding of Solar Flare Termination Shocks" (lead of collaborative proposals: G. Fan/LANL)	n
PI, NASA Heliophysics Supporting Research	2020-2023
"Exploring Energy Release and Conversion in Solar Eruptive Events Using Multi-wavelengt Observations and Numerical Simulations"	h
PI, NSF Division of Atmospheric and Geospace Sciences (CAREER)	2017-2023
"Probing Energy Release in Solar Explosive Events with New Generation Radio Telescopes	"
PI, NSF Division of Atmospheric and Geospace Sciences (SHINE)	2017-2020
"Collaborative Research: Magnetic Energy Release During Solar Eruptions: From Large and Small Scales" (lead of collaborative proposals: K. Reeves/SAO)	d
PI, NSF Division of Astronomical Sciences	2017-2020
"Collaborative Research: Electron Acceleration and Emissions from the Solar Flare Termination Shock" (lead of collaborative proposals: G. Fan/LANL)	l -
PI, NASA Heliophysics Guest Investigator	2016-2019
"Particle Energization in Solar Flares: Combing Observations from a Suite of NASA Mission with the Jansky Very Large Array"	ıs
As Co-Investigator	

Page 3 of 17 October 22, 2023

2023-2025

"GEO OSE Track 1: SUNCAST: Software Unified Collaboration for Advancing Solar Tomography" (PI: G. Nita/NJIT)

Co-I, NASA Living with a Star Science

2023-2027

"Behind F10.7: Understanding the Physical Origin Of Solar F10.7 Index With Microwave Imaging Spectroscopy" (PI: S. Yu/NJIT)

Co-PI, NSF Division of Astronomical Sciences

2021-2024

"The Expanded Owens Valley Solar Array as a Community Facility" (PI: D. Gary/NJIT)

Co-PI, NSF Division of Astronomical Sciences

2021-2024

"REU Site: Solar, Terrestrial, and Space Weather Sciences at New Jersey Institute of Technology" (PI: H. Kim/NJIT)

Co-I (Institutional PI), NASA HSO Connect

2020-2023

"Energetics of solar eruptions from the chromosphere to the inner heliosphere" (PI: K. Reeves/SAO)

Co-I, NASA HSO Connect

2020-2023

"Study of Small Scale Magnetic Reconnection and Energy Release in the Source Regions of Solar Wind" (PI: H. Wang/NJIT)

Co-I, NASA Heliophysics DRIVE Science Center Phase I

2020-2022

"Solar Flare Energy Release" (PI: J. Drake/UMD)

Co-I, NASA HSO Data Support

2019-2024

"Microwave Imaging Spectroscopy Support for Parker Solar Probe" (PI: D. Gary/NJIT)

Co-PI, NSF Division of Astronomical Sciences

2019-2021

"Microwave Imaging Spectropolarimetry of the Sun and Solar Activity" (PI: D. Gary/NJIT)

Instrumentation Projects and Science Center Activities

Ground-based Facilities

Expanded Owens Valley Solar Array (EOVSA)

2016-present

Co-PI; co-lead (with PI D. Gary) instrument commissioning, calibration, software development, and science investigation.

Karl G. Jansky Very Large Array (JVLA)

2011-present

Commissioned the solar observing mode of JVLA as part of his Ph.D. thesis project (advised by T. Bastian). PI or Co-I on >10 JVLA solar observing programs through a competitive selection process.

Atacama Large (sub)Millimeter Array (ALMA)

2014-present

Member of the ALMA solar development team. PI or Co-I on four (4) solar observing programs through a competitive selection process.

Frequency Agile Solar Radiotelescope (FASR)

2015-present

FASR is a next-generation solar radio telescope concept that has been highly recommended by multiple decadal survey reports. Co-PI on a pre-proposal submitted to NSF for design and implementation in 2019 (not selected). Author or co-author on 19 FASR-related white papers submitted to the 2020 Astronomy & Astrophysics Decadal Survey and 2024 Solar & Space Physics Decadal Survey.

Page 4 of 17 October 22, 2023

Spacecraft Missions

Physics of Energetic and Non-thermal plasmas in the X region (PhoENiX)

2019-present

Collaborator, science team member. PhoENiX (PI: N. Narukage) is a mid-class (\$150M) spacecraft mission concept to study X-rays from solar flares. Concept study and proposal development are underway.

The Focusing Optics X-ray Solar Imager (FOXSI)

2017-2019

Collaborator, science team member. FOXSI (PI: S. Christe) is a solar hard X-ray mission concept proposed to NASA as a Heliophysics Small Explorer (SMEX) mission. It was selected for Phase A concept study, but not selected as a full mission.

COronal Spectrographic Imager in the Extreme ultraviolet (COSIE)

2018-2019

Co-I, science team member. COSIE (PI: L. Golub) is a wide-field solar EUV spectrographic imager concept proposed to NASA as a Mission of Opportunity Small Complete Mission. Selected for technical development in 2017, but not selected as a full mission.

Heliophysics Radio Observer (HeRO)

2016-2017

Co-I, science team member. HeRO (PI: D. Gary) is a space-based radio interferometer proposed to NASA for concept study as a Mission of Opportunity Small Complete Mission (not selected).

NASA Heliophysics DRIVE Science Center

Solar Flare Energy Release (SolFER)

03/2020-04/2022

Co-I, leading a working group with Fan Guo on "electron energization in solar flares." SOC member for the SolFER 2021 Conference. SolFER (PI: J. Drake) is a NASA Heliophysics DRIVE Science Center funded for Phase I study.

Mentorship

Research Scientists			
Dr. Sijie Yu	NJIT	Mentor	08/2020-present
Current Postdoctoral Rese	<u>earchers</u>		
Dr. Peijin Zhang	UCAR	Host Scientist (Jack Eddy Fellow)	Starting in 11/2023
Dr. Xingyao Chen	NJIT	Advisor (co-advisor D. Gary)	Starting in 07/2023
Dr. Yuqian Wei	NJIT	Advisor (co-advisor H. Wang)	Starting in 07/2023
Dr. Surajit Mondal	NJIT	Advisor (co-advisor S. Yu)	10/2021-present
Current Ph.D. Students			
Anastasia Kuske	NJIT	Primary Advisor (co-advisor G. Nita)	08/2021-present
Ivan Oparin	NJIT	Primary Advisor (co-advisor G. Fleishman)	08/2021-present
Meiqi Wang	NJIT	Primary Advisor	08/2019-present
Brian O'Donnell	NJIT	Thesis Committee Member	12/2022-present
Past Postdoctoral Research	ners		
Dr. Sijie Yu	NJIT	Advisor	06/2016-08/2020

Page 5 of 17 October 22, 2023

Dr. Yu joined NJIT/CSTR as a research scientist in 2020.

Past Ph.D. Students			
Dr. Yuqian Wei	NJIT	Primary Advisor (co-advisor H. Wang)	08/2017-05/2023
Dr. Wei obtained his	s PhD in 2023. H	le is now a Postdoc at NJIT.	
Dr. Yingjie Luo	NJIT	Primary Advisor	08/2016-08/2022
Dr. Luo obtained hi	s PhD in 2022. I	He is now a Postdoc at University of Glasgow.	
Dr. Zhitao Wang	NJIT	Co-advisor (Primary Advisor D. Gary)	11/2014-08/2017
Dr. Wang obtained	his PhD in 2017.	He is now a Big Data Engineer at HSBC.	
Matthew Cooper	NJIT	Thesis Committee Member	09/2019-05/2023
Dr. Cooper obtained his PhD in 2023. He is now a research scientist at NJIT/CSTR.			
Dr. Yi Chai	NJIT	Thesis Committee Member	07/2018-05/2022
Dr. Chai obtained his PhD in 2023. He is now a postdoc fellow at Czech Academy of Sciences.			
Dr. Shaheda Shaik	NJIT	Thesis Committee Member	04/2016-08/2021
Dr. Shaik obtained her PhD in 2021. She is now a postdoc fellow at Naval Research Lab.			
Dr. Sherry Chhabra	NJIT	Thesis Committee Member	09/2017-05/2021
Dr. Chhabra obtained her PhD in 2021. She is now a postdoc fellow at Naval Research Lab.			
Dr. Viacheslav Sadykov	NJIT	Thesis Committee Member	01/2017-08/2019

Dr. Sadykov Obtained his PhD in 2019. He is now a tenure-track Assistant Professor at Geor-

Current Undergraduate Students

gia State University.

Sabastian Fernandes	NJIT	Research Mentor	05/2021–present
Mallory Wickline	PSU	NJIT/ISWS REU Mentor	Summer 2023
Past Undergraduate Stude	ents		
Tyler Ford	Illinois IT	NJIT/ISWS REU Mentor	Summer 2022
Samantha Lomuscio	NJIT	Research Mentor	10/2017-05/2020
Samantha was award	ed the prestigiou	ıs Barry M. Goldwater Scholarship in 2019.	
Jordan Smith	NJIT	Research Mentor	08/2020-12/2020
Sylwia Janiak	NJIT	Research Mentor	10/2016-08/2019
Marchello Caruso	NJIT	Research Mentor	04/2018-11/2018
Alexander Rodriguez	NJIT	Research Mentor	Summer 2018, 2019
Lindsey Gray	Ramapo Col.	NJSGC REU Mentor	Summer 2016
Michael Prijatelj	CMU	SAO Solar REU Mentor	Summer 2015
High School Students			
Rahul Harikrishnan	Montgomery	Research Mentor	Summer 2018
Chris Stone	High Tech	Research Mentor	Summer 2017
Daniel Vesecky	Milburn	Research Mentor	Summer 2017

Page 6 of 17 October 22, 2023

Teaching			
Phys 728 – Radio Astronomy	NJIT	Sp	ring 2022
Phys III – Mechanics	NJIT	Fall 2016, 2017, 2	•
Phys 320 – Astronomy and Astrophysics I	NJIT	Fall 2	020, 2021
Phys 321 – Astronomy and Astrophysics II	NJIT	Spring 2018, 2019, 2020, 2021, 2	022, 2023
Phys 780 – Solar Flares and CMEs	NJIT/COLLAGE	Sp	ring 2017
ASTR 3480 – Introduction to Cosmology	Univ. of Virginia	Sum	mer 2012
Invited Talks			
Invited Conference Presentations			
[21] Invited plenary talk, American Astrono	mical Society Meeting	, Albuquerque, NM	06/2023
"Solar Flares: A Laboratory for Studyir	ng Magnetic Energy R	elease and Particle Acceleration"	
[20] Mini-Conference on Magnetic Reconn	ection, APS/DPP An	nual Meeting, Spokane, WA	10/2022
"Radio Diagnostics of Reconnection- Progress and Future Outlook"	-Driven Particle Energ	gization in Solar Flares: Recent	
[19] IAU Symposium 372 "The Era of Multi	i-messenger Solar Phys	sics", Busan, South Korea	08/2022
"Recent Results of Solar Microwave In	naging Spectroscopy"		
[18] Magnetic Reconnection Workshop 202	2, Monterey, Californ	ia	05/2022
"Probing Energetic Electrons Accelera	ted by Solar Flares"		
[17] National Radio Science Meeting/URSI			01/2022
"Science Highlights from the Expande	•	<u> </u>	
			12/2021
"Evidence for Energetic Electrons Trap Flare Arcade"	ped and Accelerated in	n a Magnetic Bottle above a Solar	
[15] American Geophysical Union Fall Meet	ing, New Orleans, LA		12/2021
"Radio Studies of the Middle Corona:	Current State and Fu	ture Outlook"	
[14] FASR 2021 Workshop: Solar Physics with a Next Generation Solar Radio Facility, Online			12/2021
"Microwave Studies of Solar Flare Ene	rgy Release: Outlook	for FASR"	
[13] Kavli IPMU Workshop on particle acceleration, Online			11/2021
"Magnetic Reconnection and Electron servations of Solar Flares"		t Insights from Microwave Ob-	
[12] Plenary Talk, 20 th RHESSI Workshop,	Online		07/2021
"EOVSA Updates: Science Highlights			
[11] Plenary Talk, Max-Planck-Princeton Ce		•	01/2021
"Probing Magnetic Reconnection in S	olar Flares with Radio	Spectral Imaging"	

Research Mentor

Summer 2016, 2017

Fair Lawn

Tim Kouzmenkov

Page 7 of 17 October 22, 2023

[10] Mini-Conference on Magnetic Reconnection, APS Division of Plasma Physics Meeting	11/2020
"Probing Magnetic Reconnection in Solar Flares with Radio Spectral Imaging"	
[9] SolFER Conference	04/2020
"Onset of Flare Energy Release: Observations"	
[8] American Geophysical Union Fall Meeting, San Francisco, CA	12/2019
"Recent Advances in Radio Imaging Spectroscopy for Studying High-Energy Processes on the Sun"	
[7] American Geophysical Union Fall Meeting	12/2018
"Radio Dynamic Spectroscopic Imaging: A Powerful New Tool for Studying Electron Acceleration and Transport in Solar Flares"	
[6] Radio Stars Workshop, MIT Haystack Observatory	11/2017
"Solar Radio Emission at High Frequencies"	
[5] Joint Hinode-11/IRIS-8 Science Meeting, Seattle, WA	05/2017
"Recent Results from Coordinated VLA and Hinode/IRIS Observations"	
[4] SHINE Conference, Santa Fe, NM	07/2016
Scene-setting talk for session "Particle Acceleration and Wave Generation Across Scales: From Reconnection to Shocks"	
[3] SunDC Workshop, NASA Goddard Space Flight Center	05/2016
"Solar Flare Studies in the New Era of Radio Imaging Spectroscopy"	
[2] 15 th Annual International Astrophysics Conference	04/2016
"Particle Acceleration by a Solar Flare Termination Shock"	
[1] American Geophysics Union Fall Meeting	12/2014
"Constraining Solar Coronal Magnetic Fields with New Radio Observing Techniques"	
Invited Colloquium/Seminar	
[18] Space Plasma Seminar, Naval Research Laboratory, virtual	03/2023
"Magnetic Energy Release and Particle Acceleration in Solar Flares"	
[17] IfA Colloquium, Institute of Astronomy, University of Hawaii, online	03/2022
"Probing the 'Central Engine' of Solar Flares: Recent Insights from Broadband Radio Imaging Spectroscopy"	
[16] Space Science Seminar, NASA Marshall Space Flight Center	04/2021
"Solar Flare Energy Release: New Insights from Broadband Radio Imaging Spectroscopy"	
[15] Astronomy & Astrophysics Seminar, Dublin Institute for Advanced Studies	01/2021
"Solar Flare Energy Release: New Insights from Recent Radio Observations"	
[14] Heliophysics Seminar, Heliophysics Division of NASA Goddard Space Flight Center	10/2020
"Magnetic Reconnection and Particle Acceleration in Solar Flares: New Insights from Recent Radio Studies"	
[13] Institute for Space Weather Sciences Colloquium, New Jersey Institute of Technology	10/2020

Page 8 of 17 October 22, 2023

"Measurement of Magnetic Field and Relativistic Electrons along a Solar Flare Current Sheet"	
[12] Space & Plasma Seminar, Dartmouth College	10/2020
"Radio Diagnostics of Magnetic Reconnection and Particle Acceleration in Solar Flares"	
[11] Astronomy & Space Science Colloquium, Nanjing University	09/2020
"The Sun as a Laboratory for High-Energy Astrophysics: A Radio Perspective"	
[10] Key Laboratory of Solar Activities Seminar Series, Chinese Academy of Sciences	07/2020
"High-Energy Astrophysics on the Sun: New Insights from Broadband Radio Imaging Spectroscopy"	
[9] Solar Physics Webinar of Global Reach—SolFER Colloquium	04/2020
"Solar Flare Observations with the Jansky Very Large Array"	
[8] Astrophysics Seminar, American Museum of Natural History	10/2019
"High-Energy Astrophysics on Our Nearest Star: New Insights from Radio Observations"	
[7] Space Physics Seminar, Los Alamos National Laboratory	03/2019
"Probing Magnetic Reconnection in Solar Flares"	
[6] Heliophysics Seminar, Princeton Plasma Physics Laboratory	03/2019
"Probing Magnetic Reconnection in Solar Flares"	
[5] Space Physics and Astrophysics Colloquium, University of Minnesota	11/2018
"Solar Flare Observations with the Karl G. Jansky Very Large Array"	
[4] Princeton Astroplasmas Seminar, Princeton University	05/2016
"Particle Acceleration in Solar Flares: New Insights from Radio Observations"	
[3] Physics Department Seminar, New Jersey Institute of Technology	05/2016
"Explosions on the Sun: New Insights from Recent Radio Observations"	
[2] Space Sciences Laboratory Colloquium, Univ. of California, Berkeley	04/2015
"Solar Radio Astronomy in the Era of Broadband Dynamic Imaging Spectroscopy"	
[1] NAOC Seminar, National Astronomical Observatories, CAS	03/2013
"Passages of Electron Beams in the Sun's Corona"	
Selected Contributed Conference Presentations	
[22] American Geophysical Union Fall Meeting, Chicago, IL	12/2022
"HDR Broadband Radio Imaging Spectropolarimetry of the Sun: Expected Results from FASR"	
[21] Triennial Earth-Sun Summit (TESS), Bellevue, WA	08/2022
"The Next Frontier in Solar Flare Science with the Frequency Agile Solar Radiotelescope"	
[20] AOGS Conference, Online	08/2021
"Energetic Electron Distribution of the Coronal Acceleration Region: First Results from Joint Microwave and Hard X-ray Imaging Spectroscopy"	
[19] AOGS Conference, Online	08/2021
"Measurement of Magnetic Field and Relativistic Electrons along a Solar Flare Current Sheet"	

Page 9 of 17 October 22, 2023

[18] Heliophysics 2050 Workshop, Online	05/2021
"A Next Generation Radio Heliograph: New Insights into the Physics of the Active Sun"	
(iPoster)	
[17] American Geophysical Union Fall Meeting, Online	12/2020
"The Above-the-looptop Source of the 2017 September 10 Solar Flare: Energetic Electron Distribution over a Broad Energy Range" (iPoster)	
[16] 236 th American Astronomical Society Meeting, Online	06/2020
"Measurement of magnetic field and relativistic electrons along a solar flare current sheet"	
[15] 234 th American Astronomical Society Meeting, St. Louis, MO	06/2019
"Fast plasma outflows associated with impulsive microwave and hard X-ray bursts during the gradual phase of the 2017 September 10 X8.2 flare"	
[14] 234 th American Astronomical Society Meeting, St. Louis, MO	06/2019
"Radio Spectroscopic Imaging of Solar Flare Termination Shocks: Split-band Feature and A Second Possible Event"	
[13] 18 th RHESSI Workshop, Minneapolis, MN	05/2019
"Radio Spectral Imaging of Solar Flare Termination Shock: Co-Spatial Split-band Feature"	
[12] American Geophysical Union Fall Meeting, Washington DC	12/2018
"Probing the Bi-Directional Magnetic Reconnection Outflow Region of An Eruptive Solar Flare with Microwave Spectroscopic Imaging"	
[11] Triennial Earth-Sun Summit, Leesburg, VA	05/2018
"Microwave Spectroscopic Imaging of the Magnetic Reconnection Region in the 2017 September 10 Eruptive Solar Flare"	
[10] American Geophysical Union Fall Meeting, New Orleans, LA	12/2017
"Tracing Fast Electron Beams Emanating from the Magnetic Reconnection Site in a Solar Jet"	
[9] 5 th US/China Workshop on Radio Astronomy, Charlottesville, VA	07/2017
"Solar Flare Observations with Jansky Very Large Array"	
[8] 16 th RHESSI Workshop, Boulder, CO	06/2017
"VLA Observation of dm- λ Type III Radio Bursts in a Microflare"	
[7] American Astronomical Society Solar Physics Division Meeting, Boulder, CO	06/2016
"Radio Spectroscopic Imaging of Bi-directional Electron Beam Pairs in a Solar Flare"	
[6] American Geophysical Union Fall Meeting, San Francisco, CA	12/2015
"Observations and Simulations of a Termination Shock in an Eruptive Solar Flare as a Possible Particle Accelerator"	
[5] 14 th RHESSI Workshop, Newark, NJ	08/2015
"New Insights into Particle Acceleration: Radio Observations of a Termination Shock"	
[4] 223 rd American Astronomical Society Meeting, Washington, DC	01/2014
"Probing Magnetic Energy Release in a Solar Flare with Radio Dynamic Imaging Spectroscopy"	

Page 10 of 17 October 22, 2023

[3] American Astronomical Society Solar Physics Division Meeting, Bozeman, MT

"Radio and X-ray Diagnostics of Energy Release in Solar Flares"

[2] American Geophysical Union Fall Meeting, San Francisco, CA

"The Role of Inversion Compton Scattering in Coronal HXR Sources"

[1] American Astronomical Society Solar Physics Division Meeting, Boulder, CO

"Interplanetary Type II Radio Bursts and the Role of Gyrosynchrontron Radiation"

Publications

Link to a public ADS library of Dr. Bin Chen's refereed publications: https://ui.adsabs.harvard.edu/public-libraries/HR_t7W0_Th2sn5tzZmLCAg

Refereed Publications as Lead Author

First author and student/postdoc advisee* publications

[20] *Wang, Meiqi, **Chen, B.**[†], Yu, S., Gary, D., Lee, J. et al., *Astrophys. J.*, 954, 32 (ADS) 2023 "The Solar Origin of an In Situ Type III Radio Burst Event" [19] *Mondal, Surajit, **Chen, B.**, Yu, S., *Astrophys. J.*, 949, 56 (DOI) 2023 "Multifrequency Microwave Imaging of Weak Transients from the Quiet Solar Corona" [18] *Luo, Yingjie, Chen, B., Yu, S., Battaglia, M., Sharma, R., Astrophys. J., 940, 137 (ADS) 2022 "Multiple Regions of Quasi-Periodic Pulsations during the Impulsive Phase of a Solar Flare" [17] *Wei, Yuqian, **Chen, B.**, Yu, S., Wang, H., Jing, J., Gary, D., Astrophys. J., 923, 213 (ADS) 202I "Coronal Magnetic Field Measurements along a Partially Erupting Filament in a Solar Flare" [16] *Luo, Yingjie, Chen, B., Yu, S., Bastian, T., Krucker, S., Astrophys. J., 911, 4 (ADS) 202I "Radio Spectral Imaging of an M8.4 Eruptive Solar Flare: Possible Evidence of a Termination Shock" [15] Chen, B., Battaglia, M., Krucker, S., Reeves, K., Glesener, L., Astrophys. J. Lett., 908, 55 (ADS) 202I "Energetic Electron Distribution of the Coronal Acceleration Region: First results from Joint Microwave and Hard X-ray Imaging Spectroscopy" [14] *Yu, Sijie, Chen, B., Reeves, K., Gary, D., Sophie M. et al., Astrophys. J., 900, 17 (ADS) 2020 "Magnetic Reconnection During the Post-Impulsive Phase of a Long-Duration Solar Flare: Bi-Directional Outflows as a Cause of Microwave and X-ray Bursts" [13] **Chen, B.**, Shen, C., Gary, D., Reeves, K., Fleishman, G. et al., Nature Astronomy, 4, 1140 (ADS) 2020 "Measurement of magnetic field and relativistic electrons along a solar flare current sheet" Press Releases: National Science Foundation; New Jersey Institute of Technology; Harvard-Smithsonian Center for Astrophysics; Yunnan Astronomical Observatory • Popular Science Stories: Astronomy Magazine; Europa Press (Spain) [12] **Chen, B.**, Yu, S., Reeves, K., Gary, D., *Astrophys. J. Lett.*, 895, 50 (ADS) 2020

Page 11 of 17 October 22, 2023

Flare Model in Three Dimensions"	
[11] Chen, B. , Shen, C., Reeves, K., Guo, F., Astrophys. J., 884, 63 (ADS)	2019
"Radio Spectroscopic Imaging of a Solar Flare Termination Shock: Split-band Feature as Evidence for Shock Compression"	
• RHESSI Nugget: "Rejuvenating Solar Flare Termination Shocks as Particle Accelerators"	
[10] *Yu, Sijie, Chen, B. , <i>Astrophys. J.</i> , 872, 71 (ADS)	2019
"Possible Detection of Subsecond-Period Propagating Magnetohydrodynamics Waves in Post- Reconnection Magnetic Loops During a Two-Ribbon Flare"	
• RHESSI Nugget: "Short-Period Waves"	
[9] Chen, B., Yu, S., Battaglia, M., Samaiyah, F., Antonia S. et al. Astrophys. J., 866, 62 (ADS)	2018
"Magnetic Reconnection Null Points as the Origin of Semi-relativistic Electron Beams in a Solar Jet"	
• AAS NOVA Highlight: "Speeding Electrons in a Solar Jet"	
[8] *Wang, Zitao, Chen, B. , Gary, D., Astrophys. J., 848, 77 (ADS)	2017
"Dynamic Spectral Imaging of Decimetric Fiber Bursts in an Eruptive Solar Flare"	
[7] Chen, B. , Bastian, T., Shen, C., Gary, D., Krucker, S., Glesener, L., <u>Science</u> , 350, 1238 (ADS)	2015
"Particle Acceleration by a Solar Flare Termination Shock"	
• Press Releases: National Radio Astronomy Observatory; Harvard-Smithsonian Center for	
Astrophysics; New Jersey Institute of Technology	
• Popular Science Stories: Scientific American; Daily Mail (UK); Le Scienze (Italy); ABC (AU)	
[6] Chen, B. , Bastian, T., Gary, D., <u>Astrophys. J.</u> , 794, 149 (ADS)	2014
"Direct Evidence of an Eruptive, Filament-Hosting Magnetic Flux Rope Leading to a Fast Coronal Mass Ejection"	
[5] Chen, B., Bastian, T., White, S., Gary, D. et al., Astrophys. J. Lett., 763, 21 (ADS)	2013
"Tracing Electron Beams in the Sun's Corona with Radio Dynamic Imaging Spectroscopy"	
• NRAO Science Highlights: "Imaging Magnetic Reconnection on the Sun"	
[4] Chen, B. , Bastian, T., <i>Astrophys. J.</i> , 750, 35 (ADS)	2012
"The Role of Inverse Compton Scattering in Solar Coronal Hard X-Ray and Gamma-Ray Sources"	
[3] Chen, B., Bastian, T., Gary, D., Jing, J., Astrophys. J., 736, 64 (ADS)	2011
"Spatially and Spectrally Resolved Observations of a Zebra Pattern in a Solar Decimetric Radio Burst"	
[2] Chen, B., Yan, Y., Astrophys. J., 689, 1412 (ADS)	2008
"Short-Lived Absorptive Type III-like Microwave Bursts as a Signature of Fragmented Elec-	2000
tron Injections"	
[1] Chen, B. , Yan, Y., Solar Physics, 246, 431 (ADS)	2007

Page 12 of 17 October 22, 2023

Refereed Publications as Second Author

[6] Kong, X.; Chen, B. ; Guo, F.; Shen, C.; et al., Astrophys. J. (ADS)	2022
"Numerical Modeling of Energetic Electron Acceleration, Transport, and Emission in Solar Flares: Connecting Loop-top and Footpoint Hard X-Ray Sources"	
[5] Zhang, J.; Chen, B.; Yu, S.; Tian, H. et al., Astrophys. J. (ADS)	2022
"Implications for additional plasma heating during the extreme-ultraviolet late phase of a solar flare with microwave imaging spectroscopy"	
[4] Shen, C., Chen, B., Reeves, K. K.; Yu, S. et al., Nature Astronomy, 6, 317 (ADS)	2022
"The Origin of Underdense Plasma Downflows Associated with Magnetic Reconnection in Solar Flares"	
[3] Karlicky, M., Chen, B., Gary, D., Karsparova, J. et al., Astrophys. J., 889, 72 (ADS)	2020
"Drifting Pulsation Structure at the Very Beginning of the 2017 September 10 Limb Flare"	
[2] Gary, D., Chen, B. , Dennis, B., Fleishman, G. et al, <i>Astrophys. J.</i> , 863, 83 (ADS)	2018
"Microwave and Hard X-Ray Observations of the 2017 September 10 Solar Limb Flare" • NJIT press release; AAS/SPD press release; AAS NOVA Highlight	
[1] Zeng, Z., Chen, B. , Ji, H., Goode, P., Cao, W., <i>Astrophys. J. Lett.</i> , 819, 3 (ADS)	2016
"Resolving the Fan-Spine Reconnection Geometry of a Small-Scale Chromospheric Jet Event with the New Solar Telescope"	
Refereed Publications as Supporting Author	
[32] Zhang, J., Tian, H., Zarka, P., and 7 co-authors including Chen, B. , <i>Astrophys. J.</i> , 953, 65 (ADS) "Fine Structures of Radio Bursts from Flare Star AD Leo with FAST Observations"	2023
[31] West, M.; Seaton, D.; and 32 co-authors including Chen, B. , Solar Physics, 298, 78 (ADS)	2023
"Defining the Middle Corona"	,
[30] Shen, C.; Polito, V.; Reeves, K. K.; Chen, B. et al., <i>Frontiers.</i> , 10, 19 (ADS)	2023
"Non-thermal Broadening of IRIS Fe XXI Line Caused by Turbulent Plasma Flows in the Magnetic Reconnection Region During Solar Eruptions"	
[29] Kou, Y.; Cheng, X.; Wang, Y.; Yu, S.; Chen, B. et al., <i>Nat. Comm.</i> , 13, 7680 (ADS)	2022
"Microwave imaging of quasi-periodic pulsations at flare current sheet"	
[28] Kong, X.; Ye, J.; Chen, B. ; Guo, F.; Shen, C. <i>Astrophys. J.</i> , 933, 93 (ADS)	2022
"A Model of Double Coronal Hard X-Ray Sources in Solar Flares"	
[27] Fleishman, G.; Nita, G.; Chen, B. ; Yu, S.; Gary, D. <u>Nature</u> , 606, 674 (ADS)	2022
"Solar flare accelerates nearly all electrons in a large coronal volume"	
[26] Li, X.; Guo, F.; Chen, B. ; Shen, C.; Glesener, L. <u>Astrophys. J.</u> , 932, 92 (ADS)	2022

Page 13 of 17 October 22, 2023

"Modeling Electron Acceleration and Transport in the Early Impulsive Phase of the 2017 September 10th Solar Flare"	
[25] Battaglia, M., Sharma, R., Luo, Y., Chen, B. , Yu, S., Krucker, S., <i>Astrophys. J.</i> , 922, 134 (ADS)	2021
"Multiple electron acceleration instances during a series of solar microflares observed simultaneously at X-rays and microwaves"	
[24] Goodbred, M., Liu, Y., Chen, B. , Li, X., <i>Physics of Plasmas</i> , 28, 082103 (DOI)	2021
"The relation between the energy conversion rate and reconnection rate in Petschek-type reconnection—Implications for solar flares"	
[23] Arnold, H., Drake, J., Swisdak, M., Guo, F., Dahlin, J., Chen, B. et al. <u>PRL</u> , 126, 135101 (DOI)	2021
"Electron Acceleration during Macroscale Magnetic Reconnection"	
[22] Samanta, T., Tian, H., Chen, B. , Reeves, K. et al., <u>The Innovations</u> , 2, 100083 (DOI)	2021
"Plasma heating induced by tadpole-like downflows in the flaring solar corona"	
[21] Jafarzadeh, S., (and 13 authors), including Chen, B., Philos. Trans. Royal Soc. A, in press (DOI)	2021
"An Overall View of Temperature Oscillations in the Solar Chromosphere with ALMA"	
[20] Chhabra, S., Gary, D., Hallinan, G., Anderson, M., Chen, B. et al., Astrophys. J., 906, 132 (DOI)	2021
"Imaging Spectroscopy of CME-Associated Solar Radio Bursts using OVRO-LWA"	
[19] Reeves, K., Polito, V., Chen, B. , Galan, G., Yu, S., Liu, W., Li, G., <i>Astrophys. J.</i> , 905, 165 (DOI)	2020
"Hot Plasma Flows and Oscillations in the Loop-top Region During the September 10 2017 X8.2 Solar Flare"	
[18] Kong, X., Guo, F., Shen, C., Chen, B. et al., Astrophys. J. Lett., 905, L16 (DOI)	2020
"Dynamical Modulation of Solar Flare Electron Acceleration due to Plasmoid–Shock Interactions in the Looptop Region"	
[17] Sharma, R., Battaglia, M., Luo, Y., Chen, B., Yu, S., Astrophys. J., 904, 94 (DOI)	2020
"Radio and X-ray Observations of Short-lived Episodes of Electron Acceleration in a Solar Microflare"	
[16] Fleishman, G., Gary, D., Chen, B. , Kuroda, N., Yu, S., Nita, G., <u>Science</u> , 367, 278 (DOI)	2020
"Decay of the coronal magnetic field can release sufficient energy to power a solar flare"	
• NJIT press release; Phys.org article	
[15] Kuroda, N., Fleishman, G., Gary, D., Nita, G., Chen, B. , Yu, S., <i>Frontiers</i> , 7, 22 (DOI)	2020
"Evolution of Flare-Accelerated Electrons Quantified by Spatially Resolved Analysis"	
[14] Monica, G., (and 9 authors), including Chen, B., Solar Physics, 295, 57 (DOI)	2020
"A Survey of Computational Tools in Solar Physics"	
[13] Glesener, L., (and 8 authors), including Chen, B., Astrophys. J. Lett., 891, L34 (DOI)	2020
"Accelerated Electrons Observed Down to <7 keV in a NuSTAR Solar Microflare"	
[12] Kong, X., Guo, F., Shen, C., Chen, B. et al., <u>Astrophys. J. Lett.</u> , 887, L37 (DOI)	2019
"The Acceleration and Confinement of Energetic Electrons by a Termination Shock in a Magnetic Trap: An Explanation for Nonthermal Loop-Top Sources during Solar Flares"	

Page 14 of 17 October 22, 2023

[11] Shen, C., Kong, X., Guo, F., Raymond, J., Chen, B. , Astrophys. J., 869, 116 (DOI)	2018
"The Dynamical Behavior of Reconnection-driven Termination Shocks in Solar Flares: Magnetohydrodynamic Simulations"	
[10] Polito, V., (and 6 authors), including Chen, B., Astrophys. J., 864, 63 (DOI)	2018
"Broad Non-Gaussian Fe XXIV Line Profiles in the Impulsive Phase of the 2017 September 10 X8.3-class Flare Observed by Hinode/EIS"	
[9] White, S., (and 27 authors), including Chen, B., Solar Physics, 292, 88 (DOI)	2017
"Observing the Sun with the ALMA: Fast-Scan Single-Dish Mapping"	
[8] Shimojo, M., (and 27 authors), including Chen, B., Solar Physics, 292, 87 (DOI)	2017
"Observing the Sun with the ALMA: High-resolution Interferometric Imaging"	
[7] Grefenstette, B., (and 23 authors), including Chen, B., Astrophys. J., 826, 20 (DOI)	2016
"The first Focused Hard X-ray Images of the Sun with NuSTAR"	
[6] Tian, H., (and 6 authors), including Chen, B., Astrophys. J. Lett., 823, 16 (DOI)	2016
"Global sausage oscillation of flare loops detected by the Interface Region Imaging Spectrograph"	
[5] Tian, H., Young P., Reeves, K., Chen, B. , et al., Astrophys. J., 811, 139 (DOI)	2015
"Temporal Evolution of Chromospheric Evaporation: Case Studies of the M1.1 Flare on 2014 September 6 and X1.6 Flare on 2014 September 10"	
[4] Tian, H., (and 7 authors), including Chen, B., Astrophys. J. Lett., 797, 14 (DOI)	2014
"Imaging and Spectroscopic Observations of Magnetic Reconnection and Chromospheric Evaporation in a Solar Flare"	
[3] Yan, Y., Huang, J., Chen, B. , Liu, Y., Tan, C., <u>Adv. in Space Res.</u> , 46, 413 (DOI)	2010
"Radio Fine Structures in dm-cm Wavelength Range Associated with Magnetic Reconnection Processes"	
[2] Chernov, G., Yan, Y., Tan, C., Chen, B. , Fu, Q., <i>Solar Physics</i> , 262, 149 (DOI)	2010
"Spiky Fine Structures of Type III-Like Radio Bursts in Absorption"	
[1] Yan, Y., Huang, J., Chen, B., Sakurai T., Publ. Astron. Soc. Jpn, 58, 815 (DOI)	2007
"Diagnostics of Radio Fine Structures around 3 GHz with Hinode Data in the Impulsive Phase of an X3.4/4B Flare Event on 2006 December 13"	
Refereed Book Chapters	
[1] Gary, D., Bastian, T., Chen, B. et al., in Science with a ngVLA (Eds. E. Murphy) (DOI) "Radio Observations of Solar Flares"	2018
Selected Non-Refereed Publications or White Papers	
[17] Chen, B.; Gary, D.; Yu, S.; Mondal, S. et al., SSP2024 Decadal White Papers (URL)	2022

Page 15 of 17 October 22, 2023

"Quantifying Energy Release in Solar Flares and Solar Eruptive Events: New Frontiers with a Next-Generation Solar Radio Facility"	
[16] Chen, B.; Bastian, T.; Gibson, S.; Fan, Y. et al., SSP2024 Decadal White Papers (URL)	2022
"Radio Imaging Spectropolarimetry of CMEs and CME Progenitors"	
[15] Chen, B. ; Kooi, J.; Wexler, D.; Gary, D. et al., SSP2024 Decadal White Papers (URL)	2022
"Radio Studies of the Middle Corona: Current State and New Prospects in the Next Decade"	
[14] Yu, S.; Chen, B.; Gary, D.; Mondal, S.; White, S., SSP2024 Decadal White Papers (URL)	2022
"Long-Lasting Solar Coherent Radio Bursts and Implications for Solar–Stellar Connection"	
[13] Mondal, S.; Chen, B.; Yu, S.; Fleishman, G. et al., SSP2024 Decadal White Papers (URL)	2022
"Weak transients and heating of the quiescent solar corona"	
[12] Gary, D.; Chen, B.; Drake, J.; Fleishman, G. et al., SSP2024 Decadal White Papers (URL)	2022
"Frequency Agile Solar Radiotelescope: A Next-Generation Radio Telescope for Solar Physics and Space Weather"	
[11] Gary, D.; Chen, B.; Fleishman, G.; Drake, J. et al., SSP2024 Decadal White Papers (URL)	2022
"Particle Acceleration and Transport: New Perspectives from Radio, Optical, X-ray, and γ -Ray Observations"	
[10] Gary, D.; Chen, B.; White, S.; Bastian, T. et al., SSP2024 Decadal White Papers (URL)	2022
"Solar Active Region Coronal Magnetic Fields: Quantitative Measurements at Radio Wavelengths"	
[9] Saint-Hilaire; Bian, H.; Bastian, T.; Chen, B. et al., SSP2024 Decadal White Papers (URL)	2022
"Diagnostics of Space Weather Drivers Enabled by Radio Observations"	
[8] Kobelski, A.; Mondal, S.; Chen, B.; Gary, D. et al., SSP2024 Decadal White Papers (URL)	2022
"Radio Observations of the Quiet Chromosphere and Corona"	
[7] Chen, B., Bastian, T., Dahlin, J., Drake, J., et al., Astro2020 Science White Papers (ADS)	2019
"Probing Magnetic Reconnection in Solar Flares: New Perspectives from Radio Dynamic Imaging Spectroscopy"	
[6] Bastian, T., Bradley, R., Bain, H., Chen, B., et al., Astro2020 APC White Papers (ADS)	2019
(Astro2020 APC White Papers) "Frequency Agile Solar Radiotelescope"	
[5] Bastian, T., Chen, B. , Gary, D., Fleishman, G. et al., <u>Astro2020 Science White Papers</u> (ADS)	2019
"Radio, Millimeter, Submillimeter Observations of the Quiet Sun"	
[4] Fleishman, G., Bastian, T., Chen, B. , Gary, D. et al., <u>Astro2020 Science White Papers</u> (ADS)	2019
"Solar Coronal Magnetic Fields: Quantitative Measurements at Radio Wavelengths"	
[3] Gary, D., Bastian, T., Chen, B., Drake, J. et al., Astro2020 Science White Papers (ADS)	2019
"Particle Acceleration and Transport, New Perspectives from Radio, X-ray, and Gamma-Ray Observations"	
[2] Bastian, T., Bain, H., Chen, B. , Gary, D. et al., <u>Astro2020 Science White Papers</u> (ADS)	2019
"Diagnostics of Space Weather Drivers Enabled by Radio Observations"	

Page 16 of 17 October 22, 2023

[1] Bastian, T., (and 20 authors), including **Chen, B.**, *The Messenger*, 171, 25 (ADS) "Exploring the Sun with ALMA"

2018

Page 17 of 17 October 22, 2023