

# KE FANG

University of Wisconsin-Madison  
Wisconsin IceCube Particle Astrophysics Center  
222 West Washington Ave, Suite 500, Madison, WI 53703  
kefang@physics.wisc.edu  
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## ACADEMIC POSITIONS

- Assistant Professor, **University of Wisconsin-Madison** Since 01/2021
- NASA Einstein Fellow, **Stanford University** 09/2018 - 12/2020
- JSI Fellow, **University of Maryland & NASA Goddard** 09/2015 - 08/2018

## EDUCATION

- Ph.D., Astrophysics, **University of Chicago** 2010-2015  
*Advisor:* Angela V. Olinto  
*Thesis:* Newborn Pulsars as the Highest Energy Cosmic Accelerators

## HONORS & AWARDS

- UW-Madison Bernice Durand Faculty Fellowship 2024
- Sloan Research Fellowship 2024
- NSF CAREER Award 2023
- Shakti P. Duggal Award 2021  
*(to recognize the work of one junior scientist under the age of 36 every two years in the field of cosmic ray physics)*
- Rising stars in Physics 2019
- NASA Hubble Fellowship Program Einstein Fellowship 2018-2021
- Joint Space-science Institute Fellowship, Maryland & NASA Goddard 2015-2018

## SCIENTIFIC COMMUNITY LEADERSHIP ROLES

- **US Spokesperson of the HAWC Observatory** 2023-2024  
*(elected by the High-Altitude Water Cherenkov Observatory (HAWC) Collaboration, including ~ 150 members from 37 U.S. and international institutions)*
- **US Snowmass 2021 Topical Group Convener** 2021-2022  
*(for Cosmic Frontier CF7: Cosmic Probes of Fundamental Physics)*  
*Snowmass is a community planning effort aiming to develop a strategic plan for U.S. particle physics for the next decade*

**GRANTS (as PI unless otherwise specified): \$2.2M since 2021**

- [13] Sloan Research Fellowship, Sloan Foundation, *9/15/24-9/14/26* (\$75k)
- [12] “Diagnose the Nature of the TeV Halo HESS J1813-126 with *Swift*-XRT”, NASA Swift Guest Investigator Program Cycle 20, *10/01/24-9/31/25* (\$40k + 100 ks observation time)
- [11] “Simons Collaboration on Extreme Electrodynamics of Neutron Stars and Black Holes”, Simons Foundation, *9/1/23-8/31/27*, Director: Roger Blandford, Stanford University (Ke Fang as Co-I of UW-Madison, sharing \$996k with PI Ellen Zweibel)
- [10] “Multi-instrument Fitting of GeV-TeV Gamma-ray Emission from Shell-type SNR with ThreeML”, NASA Fermi Guest Investigator Program Cycle 16, *11/01/23-10/31/24* (\$75k)
- [9] “CAREER: WoU-MMA: PeVatrons and Beyond: Tackling the Century-old Problem with the New Messengers”, NSF PHY-2238916, *9/1/23-8/31/28* (\$795.4k)
- [8] “Unveiling the GeV Counterparts to Ultrahigh Energy Gamma-ray Sources with *Fermi*-LAT”, NASA Fermi Guest Investigator Program Cycle 15, *11/01/22-10/31/23* (\$80k)
- [7] “A New View of Active Galaxies through High-energy Neutrinos and Gamma Rays”, Wisconsin Alumni Research Foundation, *12/01/22-11/30/23* (\$50.1k)
- [6] “WoU-MMA: Galactic Gamma-Ray Astrophysics with HAWC”, NSF Windows on the Universe: the Era of Multi-messenger Astrophysics, PHY-2110821, *09/01/21-08/31/24* (\$470.5k)
- [5] “Probing the Candidate PeVatron Supernova Remnant G106.3+2.7 with *Fermi*-LAT”, NASA Fermi Guest Investigator Program Cycle 14, *10/01/21-09/30/22* (\$78k)
- [4] “Diagnose the Gamma-ray Emission Mechanism of the Cygnus Cocoon with *Swift*-XRT”, NASA Swift Guest Investigator Program Cycle 17, *11/01/21-10/31/22* (\$40k + 100 ks observation time)
- [3] “A Joint Analysis of *Fermi*-LAT and HAWC Observations of Gamma-ray Halos Around Middle-aged Pulsars”, NASA Fermi Guest Investigator Program Cycle 13, *01/01/21-12/31/22* (\$70k)
- [2] 1M CPU-hour Allocation at State of Maryland Research Computing Center, *2016*
- [1] 0.5M CPU-hour Allocation at UChicago Research Computing Center, *2015*

## PRESS

### Press Releases:

*IceCube shows Milky Way galaxy is a neutrino desert*

- based on IceCube Collaboration, *Science* (2023) and **K. Fang**, J. S. Gallagher, F. Halzen, *Nature Astronomy* (2023)
- led by UW-Madison, June 2023

*NASA's Fermi Confirms Star Wreck as Source of Extreme Cosmic Particles*

- based on **K. Fang**, M. Kerr, R. Blandford, H. Fleischhack, E. Charles, *Physical Review Letters* (2022)
- led by NASA, jointly released by UW-Madison, Aug 2022
- 317 Altmetric Attention Score, in the top 1% of all research outputs scored by Altmetric

*Not so fast, supernova: Highest-energy cosmic rays detected in star clusters*

- based on HAWC Collaboration, *Nature Astronomy* (2021), **K. Fang** as correspondent author
- led by Michigan Tech University, jointly released by UW-Madison, Mar 2021
- 244 Altmetric Attention Score

Mountaintop observatory sees gamma rays from exotic Milky Way object

- based on HAWC Collaboration, *Nature* (2018), **K. Fang** as main author
- led by University of Maryland, Oct 2018
- 203 Altmetric Attention Score

New for three types of extreme-energy space particles: Theory shows unified origin

- based on **K. Fang** & K. Murase, *Nature Physics* (2018)
- led by Penn State University, Jan 2018
- 187 Altmetric Attention Score

### Press Reports:

*UW-led team of astrophysicists identifies invisible 'ghost particles' in Milky Way using AI*

- based on IceCube Collaboration *Science* (2023)
- By Brittany Truong, Milwaukee Journal Sentinel, Jul 2023

*Neutrinos could reveal how fast radio bursts are launched*

- based on B. Metzger, **K. Fang**, B. Margalit, *Astrophysical Journal Letters* (2020)
- By Lisa Grossman, New Scientist, Sep 2020

*Case weakens for antimatter sign of dark matter*

- based on D. Hooper, I. Cholis, T. Linden, **K. Fang**, *Phys. Rev. D* (2017)
- by Edwin Cartlidge, *Science*, Mar 2017

*Baby pulsars spawn universe's most energetic particles*

- based on **K. Fang**, K. Kotera, A. V. Olinto, *Astrophysical Journal* (2012)
- by Maggie McKee, New Scientist, Feb 2012

## PROFESSIONAL SERVICE

### Experiment Membership Roles

- US spokesperson, *HAWC Observatory* 2023-2024
- Galactic Working Group Leader, *HAWC Observatory* 2021-2022
- Member, *IceCube Neutrino Observatory* 2022-
- Affiliated member, *Fermi Gamma-ray Space Telescope (Fermi-LAT)* 2018-
- Member, *HAWC Observatory* 2017-

### Meeting and Conference Organization

- ICRC 2023, Multi-messenger Committee 07/2023
- WIPAC-Astro Discussion Organizer 2021-
- US Snowmass Community Planning Meetings 2020-2022
- KIPAC-LSST Early Science Group Organizer 2019-2021
- TeVPA 2021, Science Committee 10/2021
- ICRC 2021, Multi-messenger Committee 07/2021
- TeVPA 2019, Convener 12/2019
- TeVPA 2017, Convener 08/2017
- Organizer of CTC Lunch Seminars at University of Maryland 2016-2018

### Reviewer service

- NASA Astrophysics Theory Program 2023
- NSF Astrophysics Program 2023
- NASA *Fermi* Guest Investigator Program (Cycle 15) 2022
- NASA *Fermi* Guest Investigator Program (Cycle 14) 2021
- NSF Astrophysics Program 2020
- NASA Astrophysics Theory Program 2019
- NASA *Fermi* Guest Investigator Program (Cycle 12) 2019
- NASA Earth and Space Science Fellowship 2017
- Referee for *Nature*, *Nature Astronomy*, *The Astrophysical Journal Letters*,  
*MNRAS*, *Physical Review D*, *Astroparticle Physics*, *Physical Review Letters* 2014-

### Departmental service

- UW-Madison Department of Physics, Physics Council 2021-2024
- UW-Madison Department of Physics, First-year Graduate Student Committee 2022
- UW-Madison Department of Physics, Graduate Admission Committee 2020, 2021
- KIPAC Graduate Student Admission Committee 2018, 2019

## TALKS

- [67] **Organizer**, *SuGAR 2024*, Madison, WI Oct 2024
- [66] **Convener**, *11th International Fermi Symposium*, College Park, MD Sep 2024
- [65] **Convener**, *ICHEP 2024*, Prague, Czech Republic July 2024
- [64] Invited talk, *Fermilab*, Batavia, IL May 2024
- [63] Invited talk, *Texas Symposium*, Shanghai, China Dec 2023
- [62] Invited talk, *KIPAC@20 Workshop*, Menlo Park, CA Sep 2023
- [61] **Multi-messenger committee** and rapporteur talk, *ICRC*, Nagoya, Japan Jul 2023
- [60] Invited talk, *LHAASO Symposium*, Chengdu, China May 2023
- [59] Invited talk, *P5 Town Hall at Argonne National Lab*, Lemont, IL Mar 2023
- [58] Invited talk, *NCfA Symposium*, Las Vegas, NV Feb 2023
- [57] KICP Colloquium, *University of Chicago*, Chicago, IL Dec 2022
- [56] HEP seminar, *University of Utah*, Salt Lake City, UT Oct 2022
- [55] CF plenary panelist, *Snowmass Community Summer Study*, Seattle, WA Jul 2022
- [54] Colloquium and Seminar talks, *University of Delaware*, Newark, DE Apr 2022
- [53] Invited talk, special session **organizer**, *AAS HEAD Meeting*, Pittsburgh, PA Mar 2022
- [52] Colloquium, *University of Iowa*, virtual Feb 2022
- [51] Invited talk, *Synergies 2021 Winter Workshop*, Prague, Czech Republic Dec 2021
- [50] Invited talk, *Swift Senior Review Strategy Session*, virtual Nov 2021
- [49] Astrophysics colloquium, *MIT Kavli Institute*, Cambridge, MA Oct 2021
- [48] Physics colloquia, *Columbia University*, virtual Oct 2021
- [47] Invited talk, *Dawn VI, Future Gravitational Wave Observatories*, virtual Oct 2021
- [46] Invited talk, *CMB-S4 planning meeting*, virtual Aug 2021
- [45] **Multi-messenger committee**, *ICRC*, virtual Jul 2021
- [44] Invited discussion, *Very Large Volume Neutrino Telescope workshop*, virtual May 2021
- [43] Invited talk, *Global Cosmic Ray Observatory (GCOS) workshop*, virtual May 2021
- [42] Astrophysics colloquium, *Bard College*, virtual Apr 2021
- [41] Astroparticle seminar, *DESY*, virtual Mar 2021
- [40] Astrophysics colloquium, *University of Wisconsin-Madison*, virtual Dec 2020
- [39] Invited talk, *YITP workshop at Kyoto University*, virtual Dec 2020
- [38] Invited talk, *Princeton Cosmic Accelerator Workshop*, virtual Oct 2020
- [37] Colloquium, *Clemson University*, virtual Oct 2020
- [36] Colloquia, *University of Colorado, Boulder*, virtual Sep 2020

- [35] KICP Seminar, *University of Chicago*, virtual May 2020
- [34] Astrophysics Colloquium, *Stanford University*, virtual Apr 2020
- [33] Invited talk, *TMEX-2020 Conference*, Vietnam Jan 2020
- [32] Colloquium, *University of Illinois*, Urbana-Champaign, IL Oct 2019
- [31] Highlight talk, *2019 International Cosmic Ray Conference*, Madison, WI Jul 2019
- [30] Invitation only, *2019 Rising Stars in Physics Workshop*, Stanford, CA Apr 2019
- [29] Invited talk, *Columbia University Workshop*, New York, NY Nov 2018
- [28] Invited talk, *Ultrahigh Energy Cosmic Ray Conference 2018*, Paris, France Oct 2018
- [27] Seminar, *Los Alamos National Lab*, Los Alamos, NM Jul 2018
- [26] Invited talk, *20th ISVHECRI*, Nagoya, Japan May 2018
- [25] Seminar, *IPMU*, Tokyo, Japan Jan 2018
- [24] Invited talk, *LHASSO Yearly Meeting*, Shanghai, China Dec 2017
- [23] Colloquium, *University of Maryland*, College Park, MD Oct 2017
- [22] Seminar, *Johns Hopkins University*, Baltimore, MD Oct 2017
- [21] **Organizer**, *KIAA Workshop on Astroparticle Phys-II*, Beijing, China Aug 2017
- [20] **Convener**, Invited talk, *TeV Particle Astrophysics 2017*, Columbus, OH Aug 2017
- [19] Invited talk, *GRAND Workshop*, Paris, France May 2017
- [18] Seminar, *University of Maryland*, College Park, MD Mar 2017
- [17] Invited talk, *International Conference on UHECRs*, Kyoto, Japan Oct 2016
- [16] Seminar, *RIKEN*, Tokyo, Japan Oct 2016
- [15] Invited talk, *Multi-messenger Approach to Cosmic Rays Workshop*, PA Jun 2016
- [14] Seminar, *NASA Goddard Space Flight Center*, Greenbelt, MD May 2016
- [13] Seminar, *The Pennsylvania State University*, State College, PA Mar 2016
- [12] **Organizer**, *Next-generation Techniques for UHE Astroparticle*, Chicago, IL Feb 2016
- [11] Plenary talk, *227<sup>th</sup> AAS Meeting*, Orlando, FL Jan 2016
- [10] **Organizer**, *KIAA Workshop on Astroparticle Phys-I*, Beijing, China Sep 2015
- [9] Seminar, *Center of Neutrino Physics, Virginia Tech*, Blacksburg, VA Apr 2015
- [8] Seminar, *GRAPPA, University of Amsterdam*, the Netherlands Jan 2015
- [7] Invited talk, *International Conference on UHECRs*, Springdale, UT Oct 2014
- [6] Invited talk, *High-Energy Messengers Workshop*, Chicago, IL Jun 2014
- [5] Invited talk, *Multi-messenger Workshop*, Columbus, OH Feb 2014
- [4] Seminar, *University of Wisconsin*, Madison, WI Dec 2013
- [3] *KIPAC@10 Workshop*, Menlo Park, CA Sep 2013
- [2] Invited talk, *Cosmic Ray Anisotropy Workshop*, Madison, WI Sep 2013

**TEACHING**

## Physics 322 Electromagnetic Fields

- Intermediate/advanced-level core course for undergraduates with physics major
- 65 students, Spring 2023
- 68 students, Spring 2024

## IceCube Bootcamp

- lectures for graduate students of the IceCube Collaboration
- ~30 students, summer 2021 & 2022

## Physics 208 General Physics

- Entry-level core course for undergraduates with engineering and biology majors
- 132 students, Fall 2021
- 150 students, Fall 2022

## Madison Teaching and Learning Excellence (MTLE) fellow

01/2021-12/2021

- two-semester program in teaching that helps early-career faculty develop student-learning focused teaching strategies

**ADVISING & MENTORING****Post-doctoral Associates**

- Sara Coutino (HAWC data analysis) 2021-

**Graduate Students**

- David Guevel (IceCube data analysis, X-ray followup of TeV sources) 2021-
- Angelina Partenheimer (theory of astroparticle sources) 2021-
- Hongyi Wu (HAWC data analysis) 2022-

**Undergraduate Students**

- Grant Zhou (from Statistics Department of UW-Madison, IceCube data analysis) 2022-

**OUTREACH**

- Outreach at Madison Children's Museum 04/2024
- WIPAC Career panel for students and postdocs 10/2023
- Speaker for Women in Scientific Education & Research (WISER) of UW-Madison 10/2022
- Outreach video with NASA Goddard (31k+ views within one week) 08/2022
- Interview with SciShow Youtube Channel (130k+ views) 12/2020
- KIPAC Public Lecture "Energetic Bullets Sent from Outer Space" 08/2020

- “College Insider” Podcast with the Women in STEM Organization 08/2020  
The podcast aims to provide resources to underprivileged female students and minorities interested in pursuing a STEM career.
- SLAC Community Day science demonstrator, *Menlo Park, CA* 10/2019
- KIPAC research highlight blog 05/2019
- Guest speaker at UMD Observatory, *College Park, MD* 11/2016
- Hosting scientist of Space Visualization Lab, Adler Planetarium, *Chicago, IL* 2012-2014

## PEER-REVIEWED PUBLICATIONS

### Papers in Observational Gamma-ray and Neutrino Astronomy

(Stars indicate works led by students and postdocs)

- [13] \* HAWC Collaboration, S. Coutino & **K. Fang** as correspondent authors, HAWC Detection of A TeV Halo Candidate Surrounding a Radio-quiet pulsar, *Astrophys.J. Lett.* 944 (2023) L29
- [12] \* D. Guevel, A. Beardmore, K. Page, A. Lien, **K. Fang**, L. Tibaldo, S. Casanova, P. Huentemeyer Limits on Leptonic TeV Emission from the Cygnus Cocoon with Swift-XRT, *Astrophys.J.* 950 116 (2023)
- [11] **K. Fang**, M. Kerr, R. Blandford, H. Fleischnack, E. Charles, Evidence from Fermi-LAT Observation of SNR G106.3+2.7 for PeV Proton Acceleration, *Phys. Rev. Letts.* 129, 071101 (2022) *Editor’s Suggestion*
- [10] S. Safi-Harb, B. Intyre, S. Zhang, I. Pope, S. Zhang, N. Saffold, K. Mori, E. Gotthelf, F. Aharonian, M. Band, C. Braun, **K. Fang**, C. Hailey, M. Nynka, C. Rho, Hard X-ray emission from the eastern jet of SS 433 powering the W50 “Manatee” nebula: Evidence for particle re-acceleration, *Astrophys.J.* 935 163 (2022)
- [9] HAWC Collaboration, **K. Fang** as correspondent author, HAWC Observations of the Acceleration of Very-high-energy Cosmic Rays in the Cygnus Cocoon, *Nature Astronomy* 5 (2021) 465–471
- [8] HAWC Collaboration, **K. Fang** as correspondent author, HAWC Search for High-Mass Microquasars, *Astrophys.J. Lett.* 912 (2021) L4
- [7] **K. Fang**, A. Banerjee, E. Charles, Y. Omori Cross-Correlation Study of High-energy Neutrinos and Tracers of Large-Scale Structure, *Astrophys.J.* 894 (2020)
- [6] **K. Fang**, E. Charles, R. D. Blandford GeV-TeV Counterparts of SS 433/W50 from *Fermi*-LAT and HAWC Observations, *Astrophys.J. Lett.* 889 (2020)
- [5] HAWC Collaboration, **K. Fang** as main author, Very high energy particle acceleration powered by the jets of the microquasar SS 433, *Nature* 562 (2018) 82-85



- [4] **K. Fang**, M. Su, T. Linden, & K. Murase, IceCube and HAWC Constraints on Very-high-energy Emission from the Fermi Bubbles, *Phys. Rev. D* 96, 123007 (2017)
- [3] T. Linden, K. Auchetl, J. Bramante, I. Cholis, **K. Fang**, D. Hooper, T. Karwal, W. Li, Using HAWC to Discover Invisible Pulsars, *Phys. Rev. D* 96, 103016 (2017)
- [2] **K. Fang**, K. Kotera, M. C. Miller, K. Murase, F. Oikonomou, Identifying Ultrahigh-Energy Neutrino Sources with Future Detectors, *J. Cosmol. Astropart. Phys.* 12 (2016) 017
- [1] **K. Fang** & M. C. Miller, A New Method for Finding Point Sources in High-energy Neutrino Data, *Astrophys.J.*, 826 (2016) 2

### Papers on Theory of Astroparticle Physics

- [33] \* A. Partenheimer, **K. Fang**, R. A. Batista, R. M. de Almeida, Ultrahigh-energy Cosmic Ray Sources can be Gamma-ray Dim, accepted to *ApJL* (2024)
- [32] **K. Fang**, F. Halzen, Neutrinos from LHAASO Sources, *arXiv 2404.15944*
- [31] **K. Fang**, J. S. Gallagher, F. Halzen, Milky Way as a Neutrino Desert: Implications of the IceCube Galactic Diffuse Neutrino Emission, *Nature Astronomy* (2023)
- [30] **K. Fang**, K. Murase, Decomposing the Origin of TeV-PeV Emission from the Galactic Plane: Implications of Multi-messenger Observations, *Astrophys.J. Lett.* 957 (2023) L6
- [29] **K. Fang**, E. L. Rodriguez, F. Halzen, J. S. Gallagher, High-energy Neutrinos from the Inner Circumnuclear Region of NGC 1068, *Astrophys.J.* 956 (2023) 8
- [28] N. Sridhar, B. D. Metzger, **K. Fang**, High-Energy Neutrinos from Gamma-Ray-Faint Accretion-Powered Hypernebulae, *Astrophys.J.* (2023)
- [27] K. Murase, M. Mukhopadhyay, A. Kheirandish, S. Kimura, **K. Fang**, Neutrinos from the Brightest Gamma-Ray Burst?, *Astrophys.J. Lett.* 941 (2022) L10
- [26] **K. Fang**, J. S. Gallagher, F. Halzen, The TeV Diffuse Cosmic Neutrino Spectrum and the Nature of Astrophysical Neutrino Sources, *Astrophys.J.* 933 (2022) 190
- [25] **K. Fang**, K. Murase Multi-messenger Implications of Sub-PeV Diffuse Galactic Gamma-Ray Emission, *Astrophys.J.* 919 (2021) 93
- [24] B. D. Metzger, **K. Fang**, B. Margalit Neutrino Counterparts of Fast Radio Bursts, *Astrophys.J. Lett.* 902 (2020) 22
- [23] **K. Fang**, B. D. Metzger, I. Vurm, E. Aydi, L. Chomiuk High-Energy Neutrinos and Gamma-Rays from Non-Relativistic Shock-Powered Transients, *Astrophys.J.* 904 (2020) 4
- [22] \* V. Decoene, C. Guépin, **Ke Fang**, K. Kotera, B. D. Metzger High-energy neutrinos from fallback accretion of binary neutron star merger remnants, *J. Cosmol. Astropart. Phys.* 04 (2020) 045

- [21] S. Kimura, K. Murase, K. Ioka, S. Kisaka, **K. Fang**, P. Mészáros Upscattered Cocoon Emission in Short Gamma-ray Bursts as High-energy Gamma-ray Counterparts to Gravitational Waves, *Astrophys.J. Lett.* 887 L16 (2019)
- [20] H. Zhang, **K. Fang**, H. Li, D. Giannios, M. Bottcher, S. Buson Probing the Emission Mechanism and Magnetic Field of Neutrino Blazars with Multi-Wavelength Polarization Signatures, *Astrophys. J.* 876 (2019) 2
- [19] R. Alves Batista, J. Biteau, M. Bustanmante, et. al, F. Oikonomou, **K. Fang** as correspondent author, Open Questions in Cosmic-Ray Research at Ultrahigh Energies, *Frontiers in Astronomy and Space Science*, special issue, “Multi-Messenger Astrophysics: New Windows to the Universe”, Mar 2019
- [18] **K. Fang**, B. D. Metzger, K. Murase, I. Bartos, K. Kotera, Multimessenger Implications of AT2018cow: High-Energy Cosmic Ray and Neutrino Emissions from Magnetar-Powered Super-Luminous Transients, *Astrophys. J.* 878 (2019) 34
- [17] **K. Fang**, & K. Murase, Linking High-Energy Cosmic Particles by Black Hole Jet Embedded in Large-Scale Structures, *Nature Physics* (2018)  
Highlighted by Julia Becker Tjus, “Cosmic-ray tracing”, *Nature Physics*, News & Views, 22 January 2018
- [16] Y. Zhao, **K. Fang**, M. Su, M. C. Miller, A Strong Test of the Dark Matter Origin of the 1.4 TeV DAMPE Signal Using IceCube Neutrinos, *J. Cosmol. Astropart. Phys.* 06 (2018) 030
- [15] \* C. Guépin, K. Kotera, E. Barausse, **K. Fang**, K. Murase, Ultra-High Energy Cosmic Rays and Neutrinos from Tidal Disruptions by Massive Black Holes, *A&A* 616, A179 (2018)
- [14] K. Murase, M. W. Toomey, **K. Fang**, F. Oikonomou, S. S. Kimura, K. Hotokezaka, K. Kashiyama, K. Ioka, P. Mészáros, Double Neutron Star Mergers and Short Gamma-ray Bursts: Long-lasting High-energy Signatures and Remnant Dichotomy, *Astrophys. J.* 854 (2018) 60
- [13] **K. Fang** & B. D. Metzger, High-Energy Neutrinos from Millisecond Magnetars formed from the Merger of Binary Neutron Stars, *Astrophys.J.* 849 (2017) 2  
Model used as a template in “Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory”, *Astrophys.J. Lett.* 850 (2017) 2
- [12] D. Hooper, I. Cholis, T. Linden, **K. Fang**, HAWC Observations Strongly Favor Pulsar Interpretations of the Cosmic-Ray Positron Excess, *Phys. Rev. D* 96, 103013 (2017)
- [11] L. Dai & **K. Fang** (both authors equally contribute), Can tidal disruption events produce the IceCube neutrinos? , *Mon. Not. Roy. Astron. Soc.* 469, 2 (2017)
- [10] **K. Fang** & K. Kotera, The Highest-Energy Cosmic Rays Cannot be Dominantly Protons from Steady Sources, *Astrophys.J. Lett.* 832 (2016) 1

- [9] **K. Fang** & A. V. Olinto, High-energy neutrinos from sources in clusters of galaxies, *Astrophys.J.* 828, (2016) 1
- [8] **K. Fang**, K. Kotera, K. Murase, A. V. Olinto, IceCube Constraints on Fast-Spinning Pulsars as High-Energy Neutrino Sources, *J. Cosmol. Astropart. Phys.* 04 (2016) 010
- [7] **K. Fang** & T. Linden, Cluster Mergers and the Origin of the ARCADE-2 Excess, *J. Cosmol. Astropart. Phys.* 10 (2016) 004
- [6] **K. Fang** & T. Linden, The Anisotropy of the Extragalactic Radio Background from Dark Matter Annihilation, *Phys. Rev. D* 91, 083501(2015)
- [5] **K. Fang**, High-energy Neutrino Signatures of Newborn Pulsars in the Local Universe, *J. Cosmol. Astropart. Phys.* 06 (2015) 004
- [4] **K. Fang**, T. Fujii, T. Linden & A. V. Olinto, Is the Ultra-high Energy Cosmic-Ray Excess Observed by the Telescope Array Correlated with IceCube Neutrinos? *Astrophys.J.* 794, 126 (2014)
- [3] **K. Fang**, K. Kotera, K. Murase & A. V. Olinto, Testing the Newborn Pulsar Origin of Ultrahigh Energy Cosmic Rays with EeV Neutrinos, *Phys. Rev. D* 90, 103005 (2014)
- [2] **K. Fang**, K. Kotera & A. V. Olinto, Ultrahigh Energy Cosmic Ray Nuclei from Extragalactic Pulsars and the effect of their Galactic counterparts, *J. Cosmol. Astropart. Phys.* 1303 (2013) 010
- [1] **K. Fang**, K. Kotera & A. V. Olinto, Newly-born Pulsars As Sources of Ultrahigh Energy Cosmic Rays, *Astrophys.J.* 750, 118 (2012)

## BOOKS, PROCEEDINGS, NEW & VIEWS

- A. Chou, M. Soares-Santos, T. Tait, with **K. Fang**, Snowmass Cosmic Frontier Report (2022)
- R. X. Adhikari, L. A. Anchordoqui, **K. Fang** B. S. Sathyaprakash, K. Toffelson, et. al. Snowmass CF7 report “Cosmic Probes of Fundamental Physics” (2022)
- K. Fang**, Chapter 1 “Ultrahigh Energy Cosmic Rays – Scientific Motivation” of the book “Large Area Networked Detectors: Techniques in Particle Astrophysics”, edited by Pierre Sokolsky and Gus Sinnis, published by *World Scientific Publishing Corp.* (2022)
- K. Fang**, “An extended Crab at TeV energies”, *Nature Astronomy News & Views* (2019)
- K. Fang**, “Cosmic Ray Nuclei from Extragalactic and Galactic Pulsars”, Proceedings of the Centenary Symposium 2012: Discovery of Cosmic Rays, *AIP Conf.Proc,1516 (2012) 224-228*
- K. Kotera, **K. Fang**, A. Olinto, S. Phinney, “Pulsars, supernovae, and ultrahigh energy cosmic rays”, Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics, *SF2A-2012, pp.583-586*