Vera Gluscevic

Curriculum Vitae (Sep. 2025)

University of Southern California
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Los Angeles, CA 90089, USA
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https://veragluscevic.github.io/

Publications

93 publications; 10,720 total citations (9,481 since 2020); **h-index 45** (Google Scholar, as of Sep. 25, 2025). Full manuscript list available here. ORCID: 0000-0002-3589-8637.

Current Research Interests

Cosmological and astrophysical probes of new physics, including dark matter and neutrino physics. Near-field cosmology and galaxy formation and evolution. Computational methods and machine learning applications in astrophysics. Cosmological simulations. Probabilistic inference and forward modeling in physics. Cosmic microwave background theory and analysis.

Appointments

2025–2026 **Institute for Advanced Study**, *Princeton, NJ*
- Sabbatical Member, School of Natural Sciences.

2025–2026 **Center for Computational Astrophysics**, *Flatiron Institute, New York*
- Sabbatical Visitor.

2019–Present **University of Southern California, Department of Physics and Astronomy**, *Los Angeles, CA*
- Associate Professor (with tenure; 2024-Present).
- Gabilan Assistant Professor (2019-2024)

2023 **California Institute of Technology, Physics, Mathematics and Astronomy**, *Pasadena, CA*
- Visiting Associate in Theoretical Astrophysics

2018–2019 **Princeton University, Department of Physics**, *Princeton, NJ*
- Visiting Research Scholar

Summer 2017 **Carnegie Observatories**, *Pasadena, CA*
- Visiting Research Scholar

2013–2018 **Institute for Advanced Study**, *Princeton, NJ*
- Postdoctoral Member
- Eric Schmidt Fellow (2016-2018)
- Maternity leave (summer 2013; spring 2017)

Education

Jun 2013 **Ph.D. in Astrophysics, California Institute of Technology**, *Pasadena, CA*
- Thesis: *CMB as a Probe of New Physics and Old Times.*
- Adviser: Prof. Marc Kamionkowski.

Jun 2007 **B.S. in Astrophysics, University of Belgrade**, *Belgrade, Serbia*
- Award "Prof. Zaharije Brkic" (for the best student in class of 2007).

Awards and Honors

2025 **Scialog Award**, RCSA.

2024 **Scialog Fellow**, RCSA.

2024 **Nomination for the NSF Alan T. Waterman Award**, USC Dornsife College.

2023 **CAREER Award**, National Science Foundation.

2023 **Cottrell Scholars Award**, Research Corporation for Science Advancement.

2022 **Albert S. Raubenheimer Outstanding Junior Faculty Award**, University of Southern California.

2019-2024 **Gabilan Assistant Professorship**, University of Southern California.

2016-2018 **Eric Schmidt Fellowship**, Institute for Advanced Study, Princeton.

2007 **Zaharije Brkic Student of the Generation Award**, University of Belgrade, Serbia.

2006 **Excellence in Undergraduate Studies Award**, Serbian Ministry of Education.

2004, 2005 **Excellence in Studies Award**, Faculty for Mathematics, University of Belgrade.

External funding

- **John Templeton Foundation Grant, $3.96M (Project Lead). Multidisciplinary Research Hub.** Participating institutions: USC (Dornsife, Viterbi, Cinema), UCR, Carnegie Observatories. Project: "Growing a Universe from Quantum Scales: Discovery at the Intersection of Cosmology, Epistemology, and Interactive Visual Media," Award period: 12/2025-12/2028.
- **Scialog Award, $66,000 (Institutional PI).** RCSA. Award period: 02/2025-02/2027.
- **NSF–Astronomy and Astrophysics Grants, $759,245 (Institutional PI).** Award number: AST-2407380. Award period: 11/2024-11/2027.
- **RCSA Cottrell Collaborative Award, $25,000 (PI).** Award period: 08/2024-08/2026. Title: "AI Research Coach."
- **NSF CAREER Award, $400,000 (Single PI).** Award number: PHY-2239205. Award period: 08/2023-08/2028. Title: "Discovering the Microphysics of Dark Matter with Cosmology."
- **Cottrell Scholars Award, $100,000 (Single PI).** Award period: 2023-2026. Title: "Discovering Dark Matter with Cosmology."
- **NSF–Particle Astrophysics and Cosmology–Theory, $225,000 (Single PI).** Award number: PHY-2013951. Award period: 09/2020-08/2023. Title: "Probing Dark Matter Physics Throughout Cosmic History."
- **NASA Astrophysics Theory Program, $545,084 (PI).** Award number: 21-ATP21-0135.

Award period: 06/2022-07/2025. Title: "Cosmological Signals of Light Dark Matter: New Predictions and Connections."

- **2025 Sloan Foundation Film Grant Award (Science adviser).** Short film title: "Invisible yet Shattering." PI: Ann Anlan Tao (USC School of Cinematic Arts).
- **2024 Sloan Foundation Film Grant Award (Science adviser).** Short film title: "Eclipse." PI: Ziqi Yang (USC School of Cinematic Arts).
- **2023 Sloan Foundation Games Grant Award (Science adviser).** Augmented-reality Game: "Asterist." Co-Is: Sammy Chuang, Martzi Campos, Sean Bouchard (USC School of Cinematic Arts).

Teaching

Spring 2020 **Cosmology (ASTR 424)**, *Upper-division course for physics and astronomy majors*, Department of Physics and Astronomy, USC

Spring 2021-2025, Fall 2021, **The Universe (ASTR 100)**, *General Education Course*, Department of Physics and Astronomy, USC

Fall 2022 **Advanced Cosmology (ASTR 540)**, *Graduate course*, Department of Physics and Astronomy, USC

Fall 2024, 2025 **Physics Discovery Series - with Programming Practicum (PHYS 190)**, *Undergraduate course*, Department of Physics and Astronomy, USC

Summer 2023 **Michigan Cosmology Summer School 2023**, Ann Arbor, Michigan, Invited Lecturer.

Spring 2021 **International School of Astroparticle Physics (ISAPP)**, *DARK MATTER: From theory to detection*, Vienna, Austria, Invited Lecturer

2020-2022 **Physics Capstone Project (PHYS 495)**, *Senior project for physics/computer science majors*, Department of Physics and Astronomy, USC

Summer 2010 **Forces and Rocketry**, *Summer course*, Wilson Middle School, Pasadena, CA

2008-2011 **Teaching Assistant**, *California Institute of Technology*

Ay101: *Physics of Stars*, Fall 2008, (Prof. L. Hillenbrand); Ay21: *Galaxies and Cosmology*, Winter 2008 (Prof. C. Steidel); Ay1 Section instructor: *The Evolving Universe*, Spring 2009 (Prof. N. Scoville): *Astrobiology*; Ph1 Section instructor: *Introductory Course in Newtonian Mechanics*, Fall 2010 (Prof. J. Zmuidzinas).

Mentoring

2020–Present **Postdoctoral adviser**

- Dr. Ethan Nadler (2021-2024; faculty at UCSD)
- Dr. Rui An (2020-2024)
- Priyank Parashari (2024)
- Helena Garcia Escudero (2025)

2019–Present **Ph.D. thesis adviser**

- George (Trey) Driskell (PhD 2025)
- Adam He (PhD 2025)
- Aryan Rahimieh (PhD 2025)
- Wendy Crumrine (PhD Candidate 2025)
- Sasha Mintz (NSF Fellow)
- Jeisson Pulido (NSF Fellow)
- James Wen
- Arif Chu
- Runa Indrei

2019–Present **Undergraduate student advisor**

- Rhea Richards (USC, class of 2028)
- Dongpo Bai (USC, class of 2026)
- Lucy Retterer (USC, class of 2025)
- Logan White (North Carolina State University, summer 2023)
- Israel Biniam (Montgomery College, summer 2022; GEM fellowship 2023)
- Nyal McCrea (Central Washington University; summer 2021)
- Ezra Msolla (University of Toronto)
- James Wen (USC, class of 2024)
- Julie Xue (USC, class of 2023; now USC Physics and Astronomy PhD program 2023)
- Resherle Verna (USC, class of 2020; now GEM fellowship and UT Austin Astronomy PhD program)
- Arjun Bamba (USC, class of 2022; capstone project)
- Shuxing Fang (USC, class of 2022, capstone project)
- David Nguyen (USC, class of 2021; now Yale Physics PhD program)
- Dimple Sarnaaik (USC, class of 2021; now USC Physics and Astronomy PhD program)
- Connor Powers (USC, class of 2021; now University of Maryland Physics PhD program)
- Brenda Zhou (USC, class of 2021)
- Francisco Silva Pavon (USC, class of 2021; capstone project)
- Praayas Aggarwal (USC, class of 2021; capstone project)
- Karime Maamari (USC, class of 2020; positions at Argonne national lab, NASA Langley Research Center, now USC Physics and Astronomoy PhD program)
- Christian Glover (USC, class of 2020)

2022–2023 **High school student mentor**

- Mansour Doumbia (Bronx High School of Science, summer 2022)
- Simran Dhillon (Royal High School in Simi Valley; spring/summer 2023)

2016-2020 **External project advisor (graduate students)**

Jack Lashner (USC, 2020), Ethan Nadler (Stanford, 2019), Zack Li (Princeton, 2017/18), Samuel Witte (UCLA, 2016).

2015-2018 **Undergraduate Summer Research Program (USRP) Adviser**, *Department of Astrophysical Sciences, Princeton University*

- Aizhan Akhmetzhanova (*Non-linearities in interacting cosmologies*; Summer/Fall 2018.)
- Emery Trott (*CMB-S4 sensitivity to dark matter interactions*; Summer 2017.)
- Katelyn Neese (*Annual modulation as a model-selection tool*; Summer/Fall 2015.)

2011-2013 **Astronomy peer mentoring program**, *California Institute of Technology*

- Mentored junior grad students: Melodie Kao, Io Kleiser.

Summer 2010 **Summer Undergraduate Research Fellowship (SURF) Program**, *California Institute of Technology*
- Co-advised student: Jason Sanders (*Constraining cosmic birefringence with AGN.*)

Service at USC

2019-Present **USC-Carnegie Liaison**, *for Physics and Astronomy Department.*

2024-Present **Curriculum Committee**, *Physics and Astronomy.*

2024-Present **Faculty Merit Evaluation Committee**, *Physics and Astronomy.*

2024-Present **Faculty Affairs Caucus**, *advisory body to Dornsife College Faculty Council.*

2024 **Departmental Faculty Review and Mentoring Committee**, *chair*, for Assist. Prof. Kris Pardo.

2024 **USC Merit Scolarship Committee**, *Interviewer.*

2022-Present **USC Cosmology Fundraising**, *founder and faculty lead.*
- Raised funds for the first USC Cosmology Colloquium and Visitor series.
- Secured private funds for the first USC Physics and Astronomy Department endowed Postdoctoral Fellowship (in cosmology).

2023-Present **Annual Cosmolab Open House for Undergrads**, *faculty coordinator.*

2023–2024 **Dornsife Women in Science and Engineering (WiSE) PhD Advisory Board**, *faculty mentor.*

2021–2024 **Climate Committee**, *Physics and Astronomy*
- Founder and inaugural chair.

2021–2023 **Faculty Liaison for Graduate Students**, *Physics and Astronomy.*

2019–2023 **Graduate Curriculum committee**, *Physics and Astronomy.*

2021, 2023 **Faculty Search committees**, *Physics and Astronomy*

2020, 2021, 2022 **Graduate Student Admissions**, *Physics and Astronomy*
- Review of applications, student interviews
- CosmoLab student visit organization

2021-Present **Student Thesis Committees**
- Physics and Astronomy: Kamal Oudhriri (Candidacy Committee 2024, USC Viterbi), Jack Lashner (Thesis Committee 2022), Armen Tokadjian (Thesis Committee 2024, Candidacy Committee 2021), Anastasia Haynie (Thesis Committee 2024, Candidacy Committee 2021), Jason Williams (Thesis Committee 2023), Hoa Trinh (Candidacy Committee 2023)

2021–Present **USC Astrophysics Seminar, co-organizer**, *USC Physics and Astronomy*

2019–2020 **USC Physics and Astronomy Colloquium Committee, chair.**

2019–Present **USC Women in Physics**, *founder and faculty adviser.*

2019–2020 **Bylaws committee**, *Physics and Astronomy*

2019, 2020 **Physics Student Welcome Forum, panelist**, *Physics and Astronomy*

2020 **USC Physics Festival, panelist**, *Physics and Astronomy*

External Service and Leadership

2025 **Journal of Cosmology and Astroparticle Physics**, *editor*, accepted to start September 2025.

2025 **Cosmology Summer Fest**, *coorganizer*, JHU, Baltimore

2024 **Kavli Institute for Theoretical Physics (KITP) Long-Term Program (Summer 2024)**, *Lead organizer.*

- Topic: Dark Matter Theory, Simulation, and Analysis in the Era of Large Surveys.
- Lead of the proposal and head organizer of a 2-month program.
- https://www.kitp.ucsb.edu/activities/darkmatter24

2024 **Primordial Physics with a Stage-V Spectroscopic Facility**, *LBNL*

- Scientific organizing committee.

2024 **DOE Proposal Review**

- Panelist.

2023 **Consortium of Undergraduate Women in Physics (CuWiP)**, *Southern California edition*, USD

- Panelist.

2023 **Mini-workshop: Dark Matter in SoCal**, *USC*

- Organizer.

2021–Present **NASA PhysPAG Executive Committee**

- NASA Physics of the Cosmos Program Analysis Group (PhysPAG) elected member of the Executive Committee and Co-chair of the Cosmic Structures Science Interest group.

2018–Present **Simons Observatory Collaboration**

- Founding member, helped formulate science goals and design of the original experiment.
- USC Institutional Point-of-Contact (2022-Present)
- Analysis pipeline development co-lead (2018-2020)
- Likelihood and Theory working group co-lead (2019-2021)

2018–Present **CMB-S4 Collaboration**

- Founding member for the proposed next-generation ground-based CMB experiment.
- Member of the Science Council (2018-2020)
- Lead of the Dark Matter working group (2018-2020)
- Membership Committee (2022-2023)

2013–Present **Journal referee**: Physical Review D, Physical Review Letters, Journal of Cosmology and Astroparticle Physics.

2022 **DOE Office of Science Graduate Student Research (SCGSR) Program**

- Proposal Review.

2016, 2020, 2022 **NSF proposal review**, Astronomy and Astrophysics Program and Astro-Particle and Cosmology Program, panelist.

2020, 2023 **NASA proposal review**, TCAN, APRA, and ADAP programs, panelist.

2021 **Snowmass21**, *particle physics community planning process*

- Principal author of a Letter of Interest "Cosmic Probes of Dark Matter Interactions: Challenges for Theory and Analysis", submitted to Snowmass Cosmic Frontiers working group, August 2020.
- CF3 Topical Group Report Co-author "Cosmic Probes of Dark Matter."

2019 **Astro2020 Decadal Survey**, *community input coordination*

- **Principal author of science white paper** "Cosmological Probes of Dark Matter Interactions: The Next Decade", submitted to the National Academies, March 2019 [ArXiv:1903.05140].
- Key contributor to four science white papers, submitted to the National Academies, March 2019. (https://sites.nationalacademies.org/SSB/CurrentProjects/SSB_185159)
- Key contributor to three project white papers (Simons Observatory, CMB-S4, PICO).

2015–2018 **Institute for Advanced Study (IAS) Committee on Diversity, Princeton**

- Invited postdoctoral representative.
- Results: Establishment of IAS Parental Leave Policy.

Nov 2022 *New Physics from Galaxy Clustering*, Theory Institute at CERN, co-organizer.

Aug 2021 COSMO21 conference (online), invited co-convener.

2019–2020 USC Physics and Astronomy Colloquium, organizer.

Aug 2019 COSMO19 conference in Aachen, Germany, invited co-convener.

Jun 2019 AAS meeting-in-a-meeting on Dark Matter, St. Louis, MO, organizer.

2014-2015 IAS Informal Seminar, organizer.

2012-2013 "CMB Tea" meetings for Caltech Cosmology Group, founder and organizer.

Outreach

July 2025 Short Story for The Academic Minute (broadcast on NPR affiliates) on COZMIC simulation; https://academicminute.org/.

June 2025 Dornsife Magazine interview, Life Edition.

March 2025 Solar Physics stand by USC Cosmolab and WiP+, Science fiction festival, O. E. Butler Middle School, Pasadena Unified School District.

Sep 2024 USC Media Office, podcast "Lightbulb Moments." (https://podcasts.usc.edu/).

August 2023 USC Sidney Harman Academy for Polymathic Study, panel "A Revival of Curiosity: Searching the Universe, Searching Ourselves" (https://polymathic.usc.edu).

July 2023 Discovery Project at USC, "Can you touch a galaxy?" (audience: 5-9th grade students; https://sites.usc.edu/discoveryproject/).

Dec 2021 USC Dornsife Magazine: A Cosmic Conversation, Interview.

Jan 2021 Nature and Nurture Podcast (previously Res Cogitans), Interview.

Feb 2020 Society of Physics Students, USC Chapter, Speaker.

Dec 2019	Students for the Exploration and Development of Space (SEDS), USC Chapter, Speaker (talk: *The cosmological hunt for dark matter*).
Jun 2020	Physics Festival at USC, Panelist
Mar 2018	Institute for Advanced Study (IAS) After Hours Conversations, talk: *Did we discover evidence for dark matter collisions at the dawn of first stars?*
Oct 2016	Lunch with a Member, talk for the Friends of the IAS: *Cosmic microwave background: a cosmologist's discovery tool.*
Mar 2016	IAS After Hours Conversations, talk: *What is dark matter?*
Sep 2015	IAS Staff Welcome Reception, presentation on current research.
Dec 2014	Princeton Amateur Astronomer's Association (AAAP), public talk: *How do you "catch" dark matter?*
Aug 2013	Public lecture, Belgrade Planetarium, Serbia: *Glow of the past: Story of the CMB (Sjaj proslosti: Prica o mikrotalasnoj kosmickoj pozadini).*
Spring 2012	"The 2012 Venus Transit at Caltech" public outreach program: volunteer.
Summer 2009	"Letenka" astronomy summer camp, Fruska Gora, Serbia: Invited consultation session for Serbian undergraduates interested in studying abroad.
2003-2013	Magazine "Astronomija" for popularization of Astronomy and Science, Novi Sad, Serbia: columnist and foreign correspondant.
2001-2003	Belgrade Public Observatory and Planetarium, Serbia: junior assistant.

Invited Talks and Workshops (since 2019)

Nov. 2025	Axions in Japan (invitation by Elisa Ferreira and Andrew Eberhardt), Japan, invited plenary talk.
Sep. 2025	"New Physics from Galaxy Clustering", Galileo Galilei Institute, Florence, Italy; declined due to travel concerns. (invitation by Marko Simonovic)
July 2025	Cosmic Ecosystems, Perimeter Institute, Canada, invited plenary talk.
June 2025	XVIIIth International Conference on the Interconnection between Particle Physics and Cosmology (PPC2025), The Institute for Underground Science, Sanford Underground Research Facility, Deadwood, South Dakota, invited plenary talk.
June 2025	Dark Matter 2025: From the Smallest to the Largest Scale, Santander, Spain (invitation by Bradley Kavanagh), invited plenary talk.
June 2025	Valencia Workshop on the Small-Scale Structure of the Universe and Self-Interacting Dark Matter, Valencia, Spain (invitation by Giulia Despali)
Apr. 2025	Cosmological Probes of New Physics: Harnessing the Potential of Current and Future Experiments, University of Notre Dame, IN (invitation by Yuhsin Tsai), invited plenary talk.
March 2025	Dark Matter Conference, UCLA, Los Angeles; invited plenary talk (invitation by Tomasso Treu).

March 2025	Particles vs. New Probes (P vs. NP), Flatiron Institute, Center for Computational Astrophysics (CCA), NYC; invitation-only workshop (invitation Mariangela Lisanti).
Feb. 2025	SoCal Dark Matter Workshop, UCI, invited participant.
Jan. 2025	2025 IAS Program on Fundamental Physics, Hong Kong, declined invited talk.
Jan. 2025	TMEX2025 in Vietnam, declined invited talk.
16-18 Jan. 2025	Neutrinos in Physics and Astrophysics, Berkeley, California. Celebrating Baha Balantekin (Wisconsin) and George Fuller (San Diego). Declined because of LA wildfires.
Jun 2025	Plenary talk at CosmoVerse@Istanbul 2025, Turkey (invitation by Jackson Said), declined.
Nov 2024	Early Science with LSST, Scialog, Research Corporation for Science Advancement, Tucson, AZ.
Oct 2024	Physics Colloquium, University of Washington, WA.
Oct 2024	Physics and Astronomy Colloquium, UC Riverside, CA.
Oct 2024	Dark Interactions 2024, Vancouver, CA.
Aug 2024	PACIFIC 2024 - Particle Astrophysics and Cosmology Including Fundamental InteraCtions, Moorea, Tahiti (Invitation by Alex Kushenko)
Aug 2024	TeV Particle Astrophysics Conference (TeVPA; plenary talk), Chicago, IL.
Jun 2024	Dark Matter Theory, Simulation, and Analysis in the Era of Large Surveys, KITP, UCSB (lead program organizer).
Apr 2024	Astrophysics Colloquium, University of Arizona.
Apr 2024	Physics Colloquium, University of California, San Diego (UCSD).
Oct 2023	Brookhaven Forum 2023: Advancing Searches for New Physics, Brookhaven National Laboratory; plenary talk (virtual).
Sep 2023	Physics and Astronomy Depratment Colloquium, USC.
Jun 2023	Self Interacting Dark Matter: Models, Simulations and Signals, Pollica, Italy; workshop and talk.
May 2023	2023 Mitchell Conference on Collider, Dark Matter, and Neutrino Physics; George P. and Cynthia Woods Mitchell Institute for Fundamental Physics and Astronomy, Texas A&M University, TX.
Mar 2023	UCLA Dark Matter 2023 conference.
Mar 2023	Simons Center Program on BSM physics – Lighting new Lampposts for Dark Matter and Beyond the Standard Model, Stony Brook, NY.
Mar 2023	The Less Travelled Path to the Dark Universe, International Centre for Theoretical Sciences (ICTS), Bangalore, India.
Nov 2022	Workshop on Primordial Physics with Spectroscopic Surveys, UC San Diego.
Oct 2022	Carnegie Observatories Colloquium, Pasadena, CA.

Jun 2022 SYNCRETISM 2022 Symposium: Particle physicists dining with Astrophysicists, Crete, Greece.

Apr 2022 Workshop on Novel Hidden Sectors: From Colliders to Cosmology, Garching, Germany.

Oct 2021 Racontres the Blois Conference, France, invited plenary talk, turned down invitation due to COVID-19 travel restrictions.

Oct 2021 Perimeter Institute Astrophysics Seminar (via zoom).

Aug 2021 Summer workshop on Dark Matter, Aspen.

Jul 2021 International School of Astroparticle Physics (ISAPP) "DARK MATTER: from theory to detection," Vienna, Austria (via zoom).

May 2021 XIV International Conference on Interconnections between Particle Physics and Cosmology (via zoom).

May 2021 TRIUMF Astrophysics Seminar (via zoom).

Apr 2021 DKM LSST, Vera Rubin Observatory dark matter meeting (via zoom).

Mar 2021 OKC Colloquium, Stockholm (via zoom).

Mar 2021 Astronomy Colloquium, UC Riverside (via zoom).

Dec 2020 Astronomy Seminar, UC Davis (via zoom).

Nov 2020 Cal State LA, Astronomy Colloquium (via zoom).

Oct 2020 Workshop on Global 21-cm signal, Cambridge, UK (via zoom).

Oct 2020 XIX Serbian Astronomy Conference.

Oct 2020 Caltech/JPL Cosmology Seminar.

Aug 2020 Cosmology Seminar, Fermilab.

Jul 2020 Invited follow-on visit, Kavli Institute for Theoretical Physics, Santa Barbara (cancelled due to COVID); Title: *Millicharged dark matter on small scales.*

Jun 2020 News from the Dark, Workshop (by invitation only), Strasbourg, France (via Zoom, due to COVID).

May 2020 Invited plenary talk, 32nd Rencontres de Blois - Particle Physics and Cosmology Conference, Chateau de Blois, France (cancelled due to COVID).

Mar 2020 UCLA Dark Matter 2020 conference (cancelled due to COVID).

Mar 2020 Cosmology/Astrophysics Seminar, South Methodist University (via Zoom.

Feb 2020 Colloquium, Mitchell Institute, Texas A&M University.

Feb 2020 Theory Thursday, Carnegie Observatories, Pasadena.

Dec 2019 Kavli Institute for Theoretical Physics (KITP) Seminar, UCSB.

Nov 2019 Astronomy Colloquium, UCLA.

Oct 2019 2nd Global 21-cm signal, Workshop, McGill University.

Oct 2019 Working group lead status report, CMB-S4 collaboration meeting.

Aug 2019 LSST Dark Matter Workshop, University of Chicago.

Jun 2019 New Directions in the Search for Light Dark Matter Particles, Conference, Fermilab.

Jan 2019 Dunlap Institute Colloquium, University of Toronto.

Code

Open source code available at https://github.com/veragluscevic/. Languages: `python`, `cython`, C, Mathematica, MATLAB. Packages: MultiNest, HEALPix, CAMB, 21CMFast, CosmoMC, CLASS, Monte Python.

References

Prof. Marc Kamionkowski (kamion@pha.jhu.edu) - **thesis adviser**.

Prof. Jo Dunkley (jdunkley@princeton.edu) - **postdoctoral mentor**.

Prof. Dragan Huterer (huterer@umich.edu) - **non-collaborator, in the field**.

Publications in Peer-Review Journals (Lead/Key Contributor) (last update Aug. 2025)

Below is a list of peer-reviewed publications which V. Gluscevic and her group led, or on which she was a key senior contributor. Publications that are currently under review but available online are marked as "submitted for publication." Advisees (students or postdocs) are indicated by an asterisk. All roles are defined at the time project was initialized.

- Rahimieh, Aryan*, Parashari, P.*, **Gluscevic, V.** "Forecasting 21-cm Power Spectrum Sensitivity to Dark Matter-Baryon Scattering." MNRAS, August 2025. https://doi.org/10.48550/arXiv.2505.03148
  - Project led by Rahimieh (PhD student in the Gluscevic group) and Parashari (postdoc in the Gluscevic group); Gluscevic led project conceptualization, and advised as the lead senior contributor on all stages of the project.
- Nadler, E. O.*, **Gluscevic, V.**, Benson, A. "The Effects of Linear Matter Power Spectrum Enhancement on Dark Matter Substructure." arXiv:2507.16889. ApJ, submitted, 2025. https://doi.org/10.48550/arXiv.2507.16889
  - Project co-led by Gluscevic and Nadler (postdoc in the Gluscevic group), supported by a collaborative grant. Gluscevic led project idea and conceptualization, acquiring funds to support the project, result analysis and manuscript writing.
- Nadler, E. O.*, An, R.*, Yang, D., Yu, Hai-Bo, Benson, A, **Gluscevic, V.** "COZMIC. III. Cosmological Zoom-in Simulations of Self-interacting Dark Matter with Suppressed Initial Conditions." arXiv:2412.13065. The Astrophysical Journal, Volume 986, Issue 2, id.129, 26 pp., 2025. https://doi.org/10.48550/arXiv.2412.13065
  - Project key contributors are postdocs in the Gluscevic group. Gluscevic led project conceptualization, advised as the lead senior contributor on all stages of the project, including acquiring funds to support the project. Yu is a senior collaborator and expert on SIDM physics, and Benson is a Carnegie collaborator.

- Rahimieh, Aryan*, Parashari, P.*, An, R.*, Driskell, T.*, Mirocha, J., **Gluscevic, V.** "Sensitivity of the Global 21-cm Signal to Dark Matter-Baryon Scattering." arXiv.2505.03148. Submitted to JCAP.
  https://doi.org/10.48550/arXiv.2505.03148
  - Project led by Rahimieh (PhD student in the Gluscevic group) and Parashari (postdoc in the Gluscevic group); Gluscevic led project conceptualization, and advised as the lead senior contributor on all stages of the project, including acquiring funds to support the project. Mirocha is a postdoctoral collaborator at JPL. Other co-authors are all junior members of the Gluscevic group.
- He, A.*, Ivanov, M., An, R.*, Driskell, T.*, **Gluscevic, V.** "Bounds on velocity-dependent dark matter-baryon scattering from large-scale structure." arXiv.2502.02636. Journal of Cosmology and Astroparticle Physics, Volume 2025, Issue 05, id.087, 60 pp., 2025.
  https://doi.org/10.48550/arXiv.2502.02636
  - Project led by He who was a PhD student in Gluscevic group; Gluscevic led project conceptualization, and advised as the lead senior contributor on all stages of the project, including acquiring funds to support the project. All junior co-authors are members in Gluscevic group. Ivanov is a junior faculty at MIT
- Fischer, M., Dolag, K., Garny, M., **Gluscevic, V.**, Groth, F., Nadler, E.O.* "N-body simulations of dark matter-baryon interactions." arXiv:2504.12393. accepted for publication in A&A, 2025.
  https://doi.org/10.48550/arXiv:2504.12393
  - Project led by postdoctoral scholar Fischer. Gluscevic is the lead expert on dark matter-baryon interactions and made key contributions to project conceptualization and advised on simulation testing.
- He, A.*, Ivanov, M., Bird, S., An, R.*, **Gluscevic, V.** "A Fresh Look at Neutrino Self-Interactions With the Lyman-alpha Forest: Constraints from EFT and PRIYA." arXiv:2503.15592. Submitted to PRD, 2025.
  https://doi.org/10.48550/arXiv:2503.15592
  - Project led by He (PhD student in the Gluscevic group). Gluscevic formed the collaboration, led project conceptualization, advised as the lead senior contributor on all stages of the project. Ivanov and Bird are peer collaborators and faculty, with expertise in EFT of large scale structure and Lyman-alpha forest, respectively.
- Calabrese, E. and the ACT Collaboration, including An, R.*, **Gluscevic, V.** "The Atacama Cosmology Telescope: DR6 Constraints on Extended Cosmological Models." JCAP, 2025.
  https://doi.org/10.48550/arXiv:2503.14454
  - Gluscevic group led dark matter section analysis and presentation (IDM and annihilations) for the ACT collaboration, which was one of the key constraints presented in this paper.
- An, R.*, Nadler, E. O.*, Benson, A. **Gluscevic, V.** "COZMIC. II. Cosmological Zoom-in Simulations with Fractional non-CDM Initial Conditions." arXiv.2411.03431. ApJ, 986, 128 (2025).
  https://doi.org/10.48550/arXiv.2411.03431
  - Project led by An, postdoc in Gluscevic group; Gluscevic led project conceptualization, and advised as the lead senior contributor on all stages of the project, including acquiring funds to support the project. All junior co-authors are members in Gluscevic group.

- Driskell, T.*, Nadler, E.*, Benson, A. **Gluscevic, V.** "Population synthesis and astrophysical inference for high-z JWST galaxies." arXiv:2410.11680. Physical Review D, under review, 2024. https://doi.org/10.48550/arXiv.2410.11680
  - Project led by Driskell, PhD student advised by Gluscevic; Gluscevic led project conceptualization, developed the novel probabilistic method, and advised as the lead senior contributor on all stages of the project. All junior co-authors are members in Gluscevic group.
- Nadler, E.*, An, R.*, **Gluscevic, V.**, Benson, A., Du, X. "COZMIC. I. Cosmological Zoom-in Simulations with Initial Conditions Beyond CDM." arXiv:2410.03635. ApJ, 986, 127 (2025) https://doi.org/10.48550/arXiv.2410.03635
  - Project led by Nadler and An, both postdocs advised by Gluscevic; Gluscevic was the primary senior lead with the original project idea and has acquired full project funding, and co-led associated analyses within her group.
- Crumrine, W.*, Nadler, E.*, An, R.* **Gluscevic, V.** "Dark Matter Coupled to Radiation: Limits from the Milky Way Satellites." arXiv.2406.19458. Phys. Rev. D 111, 023530 (2025). https://doi.org/10.1103/PhysRevD.109.123522
  - Project led by Crumrine, PhD student advised by Gluscevic; the rest of the co-authors are junior members in Gluscevic group.
- An, R.*, Boddy, K., **Gluscevic, V.** "Interacting light thermal-relic dark matter: Self-consistent cosmological bounds." arXiv.2402.14223. Physical Review D, Volume 109, Issue 12, article id.123522, June 2024. https://doi.org/10.1103/PhysRevD.109.123522
  - Project led by An and supervised by Gluscevic. An is a postdoc in the Gluscevic group.
- Nadler, E.*, **Gluscevic, V.**, Driskell, T.*, Wechsler, R., Moustakas, L., Benson, A., Mao, Y. "Forecasts for Galaxy Formation and Dark Matter Constraints from Dwarf Galaxy Surveys." arXiv.2401.10318. The Astrophysical Journal, Volume 967, Issue 1, id.61, 34 pp., May 2024. https://doi.org/10.3847/1538-4357/ad3bb1
  - Project led by Nadler and supervised by Gluscevic. Nadler is a postdoc in the Gluscevic group.
- Rui, A.*, **Gluscevic, V.** "Reconstructing the early-universe expansion and thermal history." arXiv:2310.17195. Physical Review D, Volume 109, Issue 2, article id.023534, January 2024. https://doi.org/10.1103/PhysRevD.109.023534
  - Project led by An and supervised by Gluscevic. An is a postdoc in the Gluscevic group.
- He, A.*, Rui, A.*, Ivanov, M., **Gluscevic, V.** "Self-Interacting Neutrinos in Light of Large-Scale Structure Data." arXiv:2309.03956. Physical Review D, Volume 109, Issue 10, article id.103527, May 2024. https://doi.org/10.1103/PhysRevD.109.103527
  - Project conceived with the whole authorship list, and supervised by Gluscevic. He is a PhD student in the Gluscevic group who conducted all the analyses, with minor help from An, who is a postdoc in the Gluscevic group. Ivanov is a junior collaborator with expertise in perturbation theory; he was consulted regarding the merger and application of the relevant codes.
- Rui, A.*, **Gluscevic, V.**, Nadler, E. O.*, Zhang, Y. "Can Neutrino Self-interactions Save Sterile Neutrino Dark Matter?" arxiv:2301.08299. ApJ Letters, Volume 954, Issue 1, Pages L18, September 2023.

https://doi.org/10.48550/arXiv.2301.08299
  - Project fully conceived and supervised by Gluscevic. Analysis and intepretation of the results are entirely done by the two postdocs in Gluscevic group, An and Nadler. Zhang is a senior collaborator with expertise in neutrino physics; he advised on the choice of the correct phase space distribution for self-interacting sterile neutrino models. Order of authors is alphabetic.
- He, A.*, Ivanov, M., Rui, A.*, **Gluscevic, V.** "S8 Tension in the Context of Dark Matter-Baryon Scattering." arxiv:2301.08260. ApJ Letters, Volume 954, Issue 1, Pages L8, September 2023. *Editor's pick*. https://doi.org/10.48550/arXiv.2301.08260
  AAS Nova Highlight.
  - Project fully conceived and supervised by Gluscevic. He is a PhD student in the Gluscevic group who conducted all the analyses, with minor help from An, who is a postdoc in the Gluscevic group. Ivanov is a postdoctoral scholar and a junior collaborator with expertise in perturbation theory; he was consulted regarding the merger and application of the relevant codes.
- Nadler, E. O.*, Benson, A., Driskell, T.*, Du, X., **Gluscevic, V.**. "Growing the First Galaxies' Merger Trees." arxiv:2212.08584. Monthly Notices of the Royal Astronomical Society, Volume 521, Issue 3, May 2023, Pages 3201–3220.
  https://doi.org/10.1093/mnras/stad666
  - Project led by Nadler, a postdoc in Gluscevic group, under Gluscevic supervision. Benson is a collaborator at Carnegie and he co-supervised Nadler.
- Driskell, T.*, Nadler, E. O.*, Mirocha, J.*, Benson, A., Boddy, K. K., Morton, T. D., Lashner, J.*, **Gluscevic, V.**. "Structure formation and the global 21-cm signal in the presence of Coulomb-like dark matter-baryon interactions." arXiv:2209.04499. Physical Review D 106, 103525, 2022.
  https://doi.org/10.1103/PhysRevD.106.103525
  - Project fully conceived and supervised by Gluscevic; Gluscevic also developed the methods and assembled a cross-institutional team with expertise to conduct this research. Driskell performed all the analysis and is a PhD student in the Gluscevic group. Nadler and An are postdocs in the Gluscevic group, and they contributed a portion of the numerical results. Boddy provided comments on the draft and a portion of the original discussions. Benson is a collaborator who provided advice on the structure-formation code that was modified and used for parts of this project. All key personnel are supported by Gluscevic.
- Li, Z.*, An, R.*, **Gluscevic, V.**, Boddy, K. K., and the ACT Collaboration. "The Atacama Cosmology Telescope: limits on dark matter-baryon interactions from DR4 power spectra." arXiv:2208.08985; Journal of Cosmology and Astroparticle Physics, JCAP02(2023)046.
  https://doi.org/10.1088/1475-7516/2023/02/046
  - Project fully conceived and supervised by Gluscevic. Li is a key junior contributor, advised on the project by Gluscevic. An is a postdoc in the Gluscevic group and she contributed a portion of the key numerical results. Boddy provided comments on the manuscript. The rest of the co-authors are opt-in members of the ACT collaboration, where Gluscevic is a member as well; they have not directly contributed to the project. Per collaboration policy, key contributors are lead authors, followed by alphabetic ordering of opt-in collaboration members.
- Roy, A., van Engelen, A., **Gluscevic, V.**, Battaglia, N. "Probing the circumgalactic medium

with CMB polarization statistical anisotropy." arXiv:2201.05076. ApJ, Volume 951, Issue 1, Pages 50.
https://doi.org/10.48550/arXiv.2201.05076
- Gluscevic contributed original idea, and a key error analysis and forecasts. The project is led by junior collaborator Roy, under guidance of peer collaborator Battaglia.

- Short, K., Bernal, J. L., Boddy, K. K., **Gluscevic, V.**, Verde, L. 2022. "Dark matter-baryon scattering effects on temperature perturbations and implications for cosmic dawn." arXiv:2203.16524. Submitted for publication.
https://doi.org/10.48550/arXiv.2203.16524
- Gluscevic contributed formulation of the problem and advised on the interpretation of the results, as well as parts of the paper writing. The project is led by Short, a student in the senior-collaborator Verde's group.

- Rui, A.*, **Gluscevic, V**., Erminia, C., Colin, H. J. 2022. "What does cosmology tell us about the mass of thermal-relic dark matter? Journal of Cosmology and Astroparticle Physics." arXiv:2202.0351. Journal of Cosmology and Astroparticle Physics, JCAP07(2022)002.
https://doi.org/10.1088/1475-7516/2022/07/002
- Project fully conceived and guided by Gluscevic, as the senior adviser. An is a postdoc in Gluscevic group. The rest of the co-authors are opt-in members of the ACT collaboration who provided comments on the draft, and both are peer collaborators of Gluscevic; per collaboration policy, Gluscevic is bound to allow opt-in members when using collaboration data, and they are listed after the key contributors in the author list.

- Nguyen, D. V.*, Sarnaaik, D.*, Boddy, K. K., Nadler, E. O.*, **Gluscevic, V.** 2021. "Observational constraints on dark matter scattering with electrons." Physical Review D 104, 103521, 2021.
https://doi.org/10.1103/PhysRevD.104.103521
- Project fully conceived and guided by Gluscevic, as the senior adviser. Key junior contributors Nguyen and Sarnaaik were USC undergraduate students, working under supervision of Gluscevic.

- Nadler, E. O.* and 68 colleagues (DES Collaboration) including **Gluscevic, V.** as external key contributor 2021. "Constraints on Dark Matter Properties from Observations of Milky Way Satellite Galaxies." Physical Review Letters 126, 091101, 2021.
https://doi.org/10.1103/PhysRevLett.126.091101
- This project directly applied the ideas and methods first conceived by Gluscevic (in Nadler et al, 2019) to new data from the Dark Energy Survey (DES), with Nadler as the key junior lead. Senior leadership of DES included.

- Maamari, K.*, **Gluscevic, V.**, Boddy, K. K., Nadler, E. O.*, Wechsler, R. H. "Bounds on Velocity-dependent Dark Matter-Proton Scattering from Milky Way Satellite Abundance." The Astrophysical Journal Letters 907 L46, 2021.
https://doi.org/10.3847/2041-8213/abd807
- The project was fully conceived and led by Gluscevic, as the senior adviser. Maamari was junior lead of the project, an USC undergraduate working under supervision of Gluscevic. Senior collaborator Wechsler provided funding for junior collaborator Nadler. The order of authorship is by decreasing contribution.

- Nadler, E. O.*, **Gluscevic, V.**, Boddy, K. K., Wechsler, R. H. 2019. "Constraints on Dark

Matter Microphysics from the Milky Way Satellite Population." The Astrophysical Journal Letters 878 L32, 2019.
https://doi.org/10.3847/2041-8213/ab1eb2
- The project was fully conceived and led by Gluscevic, as the senior adviser. Senior collaborator Wechsler provided funding for Nadler. Boddy was a junior collaborator. The order of authorship is by decreasing contribution.

- Ade, P. and 249 colleagues (Simons Observatory Collaboration) including **Gluscevic, V.** 2019. "The Simons Observatory: science goals and forecasts." Journal of Cosmology and Astroparticle Physics JCAP02(2019)056, 2019.
https://doi.org/10.1088/1475-7516/2019/02/056
  - Gluscevic proposed and performed dark matter-baryon scattering forecasts and wrote related chapter; dark-matter physics is one of the collaborations' science goals.
- Li, Z.*, **Gluscevic, V.**, Boddy, K. K., Madhavacheril, M. S. 2018. "Disentangling dark physics with cosmic microwave background experiments." Physical Review D 98, 123524, 2018.
https://doi.org/10.1103/PhysRevD.98.123524
  - The project was fully conceived and led by Gluscevic, as the senior adviser. Key junior contributor Li was a graduate student, supervised on this project by Gluscevic.
- Boddy, K. K., **Gluscevic, V.**, Poulin, V., Kovetz, E. D., Kamionkowski, M., Barkana, R. 2018. "Critical assessment of CMB limits on dark matter-baryon scattering: New treatment of the relative bulk velocity." Physical Review D 98, 123506, 2018.
https://doi.org/10.1103/PhysRevD.98.123506
  - The project was conceived and equally contributed by Gluscevic and Boddy. Poulin and Kovetz have contributed discussions and code checks. Kamionkowski provided support for Boddy, Kovetz, and Poulin. Barkana is a courtesy co-author.
- Kovetz, E. D., Poulin, V., **Gluscevic, V.**, Boddy, K. K., Barkana, R., Kamionkowski, M. 2018. "Tighter limits on dark matter explanations of the anomalous EDGES 21 cm signal." Physical Review D 98, 103529, 2018.
https://doi.org/10.1103/PhysRevD.98.103529
  - Gluscevic and Boddy provided key results and initial interpretation. Kovetz and Poulin refined the interpretation in context of other probes and led the manuscript writing. Kamionkowski provided funding for Poulin, Kovetz, and Boddy. Barkana is a courtesy co-author.
- Boddy, K. K., **Gluscevic, V.** 2018. "First cosmological constraint on the effective theory of dark matter-proton interactions." Physical Review D 98, 083510, 2018.
https://doi.org/10.1103/PhysRevD.98.083510
  - The project was conceived by Gluscevic, and main analysis results were obtained by Gluscevic. Development of theory code was co-led with the junior collaborator Boddy.
- **Gluscevic, V.**, Boddy, K. K. 2018. "Constraints on Scattering of keV-TeV Dark Matter with Protons in the Early Universe." Physical Review Letters 121, 081301, 2018.
https://doi.org/10.1103/PhysRevLett.121.081301
  - The project was fully conceived and led by Gluscevic.
- **Gluscevic, V.**, Venumadhav, T., Fang, X., Hirata, C., Oklopčić, A., Mishra, A. 2017. "New probe of magnetic fields in the pre-reionization epoch. II. Detectability." Physical Review D 95, 083011, 2017.
https://doi.org/10.1103/PhysRevD.95.083011

- The results and manuscript are led by Gluscevic. Hirata is the senior contributor who proposed the original idea.

- Venumadhav, T., Oklopčić, A., **Gluscevic, V.**, Mishra, A., Hirata, C. M. 2017. "New probe of magnetic fields in the prereionization epoch. I. Formalism." Physical Review D 95, 083010, 2017.
  https://doi.org/10.1103/PhysRevD.95.083010
  - Gluscevic contributed analysis checks, discussion, and manuscript writing. The project was led by Venumadav, with Hirata as the senior adviser.
- Witte, S. J.*, **Gluscevic, V.**, McDermott, S. D. 2017. "Prospects for distinguishing dark matter models using annual modulation." Journal of Cosmology and Astroparticle Physics JCAP02(2017)044, 2017.
  https://doi.org/10.1088/1475-7516/2017/02/044
  - The project was fully conceived by Gluscevic, as the senior adviser. UCLA graduate student Witte obtained the results and contributed writing of the manuscript. McDermott was a junior collaborator and contributed discussions.
- **Gluscevic, V.**, Gresham, M. I., McDermott, S. D., Peter, A. H. G., Zurek, K. M. 2015. "Identifying the theory of dark matter with direct detection." Journal of Cosmology and Astroparticle Physics JCAP12(2015)057, 2015.
  https://doi.org/10.1088/1475-7516/2015/12/057
  - The project was conceived and led by Gluscevic. Peter was the senior adviser. Zurek and McDermott contributed initial version of the code for some of the theoretical calculations.
- Peter, A. H. G., **Gluscevic, V.**, Green, A. M., Kavanagh, B. J., Lee, S. K. 2014. "WIMP physics with ensembles of direct-detection experiments." Physics of the Dark Universe Volumes 5–6, December 2014, Pages 45-74.
  https://doi.org/10.1016/j.dark.2014.10.006
  - The project was conceived and led by Peter, with significant analysis and manuscript contribution from Gluscevic. The order of authorship is by decreasing contribution.
- **Gluscevic, V.**, Peter, A. H. G. 2014. "Understanding WIMP-baryon interactions with direct detection: a roadmap." Journal of Cosmology and Astroparticle Physics JCAP09(2014)040, 2014.
  https://doi.org/10.1088/1475-7516/2014/09/040
  - The project was conceived and led by Gluscevic. Peter was the senior adviser.
- **Gluscevic, V.**, Kamionkowski, M., Hanson, D. 2013. "Patchy screening of the cosmic microwave background by inhomogeneous reionization." Physical Review D 87, 047303.
  https://doi.org/10.1103/PhysRevD.87.047303
  - The project was led by Gluscevic, under the primary guidance of Kamionkowski.
- **Gluscevic, V.** 2013. "CMB as a Probe of New Physics and Old Times." Ph.D. Thesis.
  https://doi.org/10.7907/VZ0P-XD08
  - Original PhD thesis.
- **Gluscevic, V.**, Hanson, D., Kamionkowski, M., Hirata, C. M. 2012. "First CMB constraints on direction-dependent cosmological birefringence from WMAP-7." Physical Review D 86, 103529.
  https://doi.org/10.1103/PhysRevD.86.103529
  - The project was led by Gluscevic, with Hanson as primary adviser, and Kamionkowski as the

senior PI who concieved the key idea.

- Caldwell, R. R., **Gluscevic, V.**, Kamionkowski, M. 2011. "Cross-correlation of cosmological birefringence with CMB temperature." Physical Review D 84, 043504.
  https://doi.org/10.1103/PhysRevD.84.043504
  - The project was led by Caldwell, the forecast analysis was contributed by Gluscevic.
- **Gluscevic, V.**, Barkana, R. 2010. "Statistics of 21-cm fluctuations in cosmic reionization simulations: PDFs and difference PDFs." Monthly Notices of the Royal Astronomical Society Volume 408, Issue 4, November 2010, Pages 2373–2380.
  https://doi.org/10.1111/j.1365-2966.2010.17293.x
  - The project was led by Gluscevic, with Barkana as primary adviser.
- **Gluscevic, V.**, Kamionkowski, M. 2010. "Testing parity-violating mechanisms with cosmic microwave background experiments." Physical Review D 81, 123529, 2010.
  https://doi.org/10.1103/PhysRevD.81.123529
  - The project was led by Gluscevic, advised by Kamionkowski.
- **Gluscevic, V.**, Kamionkowski, M., Cooray, A. 2009. "Derotation of the cosmic microwave background polarization: Full-sky formalism." Physical Review D 80, 023510.
  https://doi.org/10.1103/PhysRevD.80.023510
  - The project was led by Gluscevic, advised by Kamionkowski.

Selected Large-Collaboration Publications (last update Aug. 2025)

Below are listed peer-reviewed publications to which V. Gluscevic made minor contributions as a member of a large collaboration.

- Pandey, S. and the ACT Collaboration, including **Gluscevic, V.** 2025. "Constraints on cosmology and baryonic feedback with joint analysis of Dark Energy Survey Year 3 lensing data and ACT DR6 thermal Sunyaev-Zel'dovich effect observations." arXiv:2506.07432. Submitted for publication.
  https://doi.org/10.48550/arXiv.2506.07432
- Sailer, N. and the ACT Collaboration, including **Gluscevic, V.** 2025. "Cosmological constraints from the cross-correlation of DESI Luminous Red Galaxies with CMB lensing from Planck PR4 and ACT DR6." arXiv:2407.04607. Journal of Cosmology and Astroparticle Physics, Volume 2025, Issue 06, id.008, 69 pp., 2025.
  https://doi.org/10.48550/arXiv.2407.04607
- Qu, F. and the ACT Collaboration, including **Gluscevic, V.** 2025. "Atacama Cosmology Telescope DR6 and DESI: Structure growth measurements from the cross-correlation of DESI legacy imaging galaxies and CMB lensing from ACT DR6 and Planck PR4." arXiv:2410.10808. Physical Review D, Volume 111, Issue 10, id.103503, 35 pp., 2025.
  https://doi.org/10.48550/arXiv.2410.10808
- McCarthy, F. and the ACT Collaboration, including **Gluscevic, V.** 2025. "The Atacama Cosmology Telescope: Large-scale velocity reconstruction with the kinematic Sunyaev-Zel'dovich effect and DESI LRGs." arXiv:2410.06229. Journal of Cosmology and Astroparticle Physics, Volume 2025, Issue 05, id.057, 38 pp., 2025.
  https://doi.org/10.48550/arXiv.2410.06229

- Lokken, M. and the ACT Collaboration, including **Gluscevic, V.** 2025. "Superclustering with the Atacama Cosmology Telescope and Dark Energy Survey. II. Anisotropic Large-scale Coherence in Hot Gas, Galaxies, and Dark Matter." arXiv:2409.04535. The Astrophysical Journal, Volume 982, Issue 2, id.186, 34 pp., 2025.
  https://doi.org/10.48550/arXiv.2409.04535
- Louis, T. and the ACT Collaboration, including **Gluscevic, V.** 2025. "The Atacama Cosmology Telescope: DR6 Power Spectra, Likelihoods and LCDM Parameters." arXiv:2503.14452. JCAP, 2025.
  https://doi.org/10.48550/arXiv.2503.14452
- Naess, S. and the ACT Collaboration, including **Gluscevic, V.** 2025. "The Atacama Cosmology Telescope: DR6 Maps." arXiv:2503.14451. JCAP, 2025.
  https://doi.org/10.48550/arXiv.2503.14451
- Besuner, R. and the Spec-S5 Collaboration, including **Gluscevic, V.** 2025. "The Spectroscopic Stage-5 Experiment." arXiv:2503.07923.
  https://doi.org/10.48550/arXiv.2503.07923
- The Simons Observatory Collaboration, including **Gluscevic, V.** 2025. "The Simons Observatory: Science Goals and Forecasts for the Enhanced Large Aperture Telescope." arXiv:2503.00636, JCAP 2025.
  https://doi.org/10.48550/arXiv.2503.00636
- Kim, J. and the ACT Collaboration, including **Gluscevic, V.** 2025. "The Atacama Cosmology Telescope DR6 and DESI: structure formation over cosmic time with a measurement of the cross-correlation of CMB lensing and luminous red galaxies." arXiv:2407.04606 . Journal of Cosmology and Astroparticle Physics, Volume 2024, Issue 12, id.022, 48 pp., 2025.
  https://doi.org/10.48550/arXiv.2407.04606
- Coulton, W. R. and the ACT Collaboration, including **Gluscevic, V.** 2023. "The Atacama Cosmology Telescope: High-resolution component-separated maps across one-third of the sky." arXiv:2307.01258. Submitted for publication.
  https://doi.org/10.48550/arXiv.2307.01258
- Marques, G. A. and the ACT Collaboration, including **Gluscevic, V.** 2023. "Cosmological constraints from the tomography of DES-Y3 galaxies with CMB lensing from ACT DR4." arXiv:2306.17268. Submitted for publication.
  https://doi.org/10.48550/arXiv.2306.17268
- Madhavacheril, M. and the ACT Collaboration, including **Gluscevic, V.** 2023. "The Atacama Cosmology Telescope: DR6 Gravitational Lensing Map and Cosmological Parameters." arXiv:2304.05203. Submitted for publication.
  https://doi.org/10.48550/arXiv.2304.05203
- Qu, F. J. and the ACT Collaboration, including **Gluscevic, V.** 2023. "The Atacama Cosmology Telescope: A Measurement of the DR6 CMB Lensing Power Spectrum and its Implications for Structure Growth." arXiv:2304.05202. Submitted for publication.
  https://doi.org/10.48550/arXiv.2304.05202
- Zegeye, D. and the CMB-S4 Collaboration, including **Gluscevic, V.** 2023. "CMB-S4: Forecasting Constraints on fNL Through μ-distortion Anisotropy." arXiv:2303.00916. Submitted for publication.
  https://doi.org/10.48550/arXiv.2303.00916

- Kreisch, C. and 23 colleagues et al., including **Gluscevic, V.** 2022. "The Atacama Cosmology Telescope: The Persistence of Neutrino Self-Interaction in Cosmological Measurements." arXiv:2207.03164. Submitted for publication. https://doi.org/10.48550/arXiv.2207.03164
- Hill, J. C. and 41 colleagues (ACT Collaboration) including **Gluscevic, V.** 2021. "The Atacama Cosmology Telescope: Constraints on Pre-Recombination Early Dark Energy." arXiv:2109.04451. Physical Review D 105, 123536, 2022. https://doi.org/10.1103/PhysRevD.105.123536
- Li, Y. and 32 colleagues (ACT Collaboration) including **Gluscevic, V.** 2021. "Constraining Cosmic Microwave Background Temperature Evolution With Sunyaev-Zel'Dovich Galaxy Clusters from the Atacama Cosmology Telescope." The Astrophysical Journal 922 136. https://doi.org/10.3847/1538-4357/ac26b6
- Choi, S. K. and 138 colleagues (ACT Collab.) including **Gluscevic, V.** 2020. "The Atacama Cosmology Telescope: a measurement of the Cosmic Microwave Background power spectra at 98 and 150 GHz." Journal of Cosmology and Astroparticle Physics JCAP12(2020)045, 2020. https://doi.org/10.1088/1475-7516/2020/12/045
- Aiola, S. and 140 colleagues (ACT Collaboration) including **Gluscevic, V.** 2020. "The Atacama Cosmology Telescope: DR4 maps and cosmological parameters." Journal of Cosmology and Astroparticle Physics JCAP12(2020)047, 2020. https://doi.org/10.1088/1475-7516/2020/12/047
- Namikawa, T. and 53 colleagues (ACT Collaboration) including **Gluscevic, V.** 2020. "Atacama Cosmology Telescope: Constraints on cosmic birefringence." Physical Review D 101, 083527. https://doi.org/10.1103/PhysRevD.101.083527
- CMB-S4 Collaboration, including **Gluscevic, V.** 2020. "CMB-S4: Forecasting Constraints on Primordial Gravitational Waves." ApJ, Volume 926, Issue 1, Pages 54, February 2022. https://doi.org/10.3847/1538-4357/ac1596

Selected White Papers

The list of white papers or non-refereed e-print science books to which V. Gluscevic contributed, or had a leading role (leading authorship indicates the PI role in this section).

- Drlica-Wagner, A. and 39 colleagues et al., including **Gluscevic, V.** 2022. "Report of the Topical Group on Cosmic Probes of Dark Matter for Snowmass 2021." arXiv:2209.08215v1
- **Gluscevic, V.** and 18 colleagues 2019. Cosmological Probes of Dark Matter Interactions: The Next Decade. Bulletin of the American Astronomical Society 51.
- Abazajian, K and 355 colleagues et al., including **Gluscevic, V.** 2022. "Snowmass 2021 CMB-S4 White Paper." arXiv:2203.08024
- Mao, Y. Y. and 32 colleagues including **Gluscevic, V.** 2022. "Snowmass2021: Vera C. Rubin Observatory as a Flagship Dark Matter Experiment." arXiv:2203.07252
- Dvorkin, C. and 12 colleagues et al., including **Gluscevic, V.** 2022. "Dark Matter Physics from the CMB-S4 Experiment." arXiv:2203.07064
- Banerjee, A. and 17 colleagues et al., including **Gluscevic, V.** 2022. "Snowmass2021 Cosmic Frontier White Paper: Cosmological Simulations for Dark Matter Physics." arXiv:2203.07049

- Boddy, K. K. and 18 colleagues et al., including **Gluscevic, V.** 2022. "Astrophysical and Cosmological Probes of Dark Matter." arXiv:2203.06380
- The CMB-HD Collaboration et al., including **Gluscevic, V.** 2022. "Snowmass2021 CMB-HD White Paper." arXiv:2203.05728
- Hanany, S. and 80 colleagues including **Gluscevic, V.** 2019. "PICO: Probe of Inflation and Cosmic Origins." arXiv:1908.07495
- Abazajian, K. and 226 colleagues including **Gluscevic, V.** 2019. "CMB-S4 Decadal Survey APC White Paper." arXiv:1908.01062
- The Simons Observatory Collaboration and 282 colleagues including **Gluscevic, V.** 2019. "The Simons Observatory: Astro2020 Decadal Project Whitepaper." arXiv:1907.08284
- Grin, D. and 7 colleagues including **Gluscevic, V.** 2019. "Gravitational probes of ultra-light axions." Bulletin of the American Astronomical Society 51.
- Simon, J. and 11 colleagues including **Gluscevic, V.** 2019. "Dynamical Masses for a Complete Census of Local Dwarf Galaxies." Bulletin of the American Astronomical Society 51.
- Bechtol, K. and 178 colleagues including **Gluscevic, V.** 2019. "Dark Matter Science in the Era of LSST." Bulletin of the American Astronomical Society 51.
- Chluba, J. and 100 colleagues including **Gluscevic, V.** 2019. "Spectral Distortions of the CMB as a Probe of Inflation, Recombination, Structure Formation and Particle Physics." Bulletin of the American Astronomical Society 51.
- Sehgal, N. and 24 colleagues including **Gluscevic, V.** 2019. "Science from an Ultra-Deep, High-Resolution Millimeter-Wave Survey." Bulletin of the American Astronomical Society 51.
- Abazajian, K. and 224 colleagues including **Gluscevic, V.** 2019. "CMB-S4 Science Case, Reference Design, and Project Plan." arXiv:1907.04473
- Hanany, S. and 81 colleagues including **Gluscevic, V.** 2019. "PICO: Probe of Inflation and Cosmic Origins." arXiv:1902.10541
- Drlica-Wagner, A. and 99 colleagues including **Gluscevic, V.** 2019. "Probing the Fundamental Nature of Dark Matter with the Large Synoptic Survey Telescope." arXiv:1902.01055.
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