

CURRICULUM VITAE

Abraham Loeb

Field of Research: Theoretical Astrophysics and Cosmology

Family: Married to Dr. Ofrit Liviatan and father to daughters Klil and Lotem

Work Address:

Harvard University

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Academic Degrees

1986 Ph.D. in Physics

1985 M.Sc. in Physics

1983 B.Sc. in Physics and Mathematics

The Hebrew University of Jerusalem, Israel

Thesis Titles

Ph.D. “Particle Acceleration to High Energies and Amplification of Coherent Radiation by Electromagnetic Interactions in Plasmas”

M.Sc. “Analytical Models for the Evolution of Strong Shock Waves Generated by High Irradiance Lasers in Solids and Fast Spark Discharges”

Positions Held

2018– Chair of the *Board on Physics & Astronomy* of the National Academies, USA.

2016– Vice chair of the *Board on Physics & Astronomy* of the National Academies, USA.

2016– Founding Director of the *Black Hole Initiative*, Harvard University.

2016– Chair of the Advisory Committee for *Breakthrough Starshot*, Breakthrough Prize Foundation.

2015– Affiliate of the Center of Mathematical Sciences and Applications, Harvard University.

2015– Science Theory Director for the *Breakthrough Initiatives Projects*

of the *Breakthrough Prize Foundation*.

2012– *Frank B. Baird Jr. Professor of Science*, Harvard University.

2011– Chair, Harvard Astronomy department (<http://astronomy.fas.harvard.edu/>).

2011– Sackler Senior Visiting Professor, School of Physics and Astronomy, Tel Aviv University.

2007– Director, *Institute for Theory and Computation (ITC)*, Harvard University (<http://www.cfa.harvard.edu/itc/>).

1997– Professor of Astronomy, Harvard University.

1995–1996 Associate Professor, Astronomy Dept., Harvard University.

1993–1995 Assistant Professor, Astronomy Dept., Harvard University.

1988–1993 Long-term member, The Institute for Advanced Study, Princeton.

1985–1988 Head of a theoretical group on electromagnetic propulsion, Israel.

1980–1988 Participant in “Talpiyot project,” Israel. This national project selects 25 high-school graduates every year from all around Israel; the participants attend an advanced program of academic study and research.

Honors & Awards

2015-2020 Three of Loeb’s students selected for “*Forbes 30 Under 30*” in five years: Amir Siraj, Henry Lin and Tony Pan; Forbes Magazine.

2020 *Dean’s Competitive Funds for Promising Scholarship*, Faculty of Arts & Sciences, Harvard University.

2020 Loeb’s PhD student, Nick Stone, awarded the *Bok Prize*, Astronomy Department, Harvard University.

2020 *Hoopes Prize in undergraduate education* for Senior Thesis of advisee, Amir Siraj, Harvard College.

2020 Member of the “President’s Council of Advisors on Science and Technology (PCAST), White House, USA.

2020 Member of the Advisory Board of “Einstein: Visualize the Impossible”, Hebrew University of Jerusalem, Israel.

2020 Selected to “The 14 Most Inspiring Israelis of the 2010-2020 Decade” by the organization “*From the Grapevine*”.

2019 Svein Rosseland Lecturer at the University of Oslo, Norway.

2018 *Hoopes Prize in undergraduate education* for Senior Thesis of advisee, Eden Girma, Harvard College.

2018 Selected among “100 Hebrew University Alumni We Love”, by the

American Friends of the Hebrew University, Jerusalem.

2018 Distinguished Lecturer of the Center for Relativistic Astrophysics, School of Physics, Georgia Tech University, Atlanta.

2015 Elected Fellow of the International Academy of Astronautics (IAA) SETI Permanent Committee.

2015 Elected Member of the American Physical Society (APS).

2015 Member of the International Astronomical Union (IAU).

2014 Member of the Board on Physics & Astronomy (BPA) of the National Academies.

2013 Miegunyah Distinguished Visiting Fellowship, University of Melbourne, Australia.

2012 *Hoopes Prize in undergraduate education* for Senior Thesis of advisee, Marion Dierickx, Harvard College.

2012 Selected to “The 25 Most Influential People in Space” by TIME Magazine.

2012 Elected member of the American Academy of Arts & Sciences.

2012 Galileo Galilei Chair (Cattedra Galileiana) Award, Scuola Normale Superiore, Pisa, Italy.

2011 Sackler Lecturer in Astronomy, Leiden Observatory, Netherlands.

2011 Las Cumbres Observatory Prize Lecturer in Astrophysics, UC Santa Barbara.

2009/10 Director of the Jerusalem Winter School in Theoretical Physics.

2009 Distinguished Visiting Scientist at the Carnegie Observatories, Pasadena.

2008 Invited speaker at the annual symposium of the Miller Institute, UC Berkeley.

2007 Inaugural Australian Institute of Physics (AIP) End of Year Lecturer.

2007/8 Australia-Harvard Distinguished Fellow

2007 Merle Kingsley Distinguished Visitor at the California Institute of Technology (Caltech).

2006/7 John Bahcall Lecturer at Tel Aviv University University.

2006 Salpeter Lecturer at Cornell University.

2006 SAAS-Fee Lecturer on “The First Light”. Ten lectures summarized in a review of 158 pages, appeared in a book format (astro-ph/0603360).

2004- Distinguished Visiting Professorship at the Faculty of Physics and the Einstein Center for Theoretical Physics, Weizmann Institute of Science.

2003 Einstein Minerva fellow, Physics Faculty, Weizmann Institute.

2002 John Simon Guggenheim Memorial Foundation Fellow.

2001 Prof. Dror Sadeh Memorial Lecturer at Tel Aviv University.

1999 Bergmann Memorial Award of the US-Israel Binational Science Foundation.

1996 *Hoopes Prize in undergraduate education* for Senior Thesis of advisee P. Young, Harvard College.

1987 The Kennedy Prize, Hebrew University of Jerusalem.

1985 “Best M.Sc. Student” award of the Faculty of Science of the Hebrew University of Jerusalem (summa cum laude).

1980 Participant in the national elite project “Talpiyot”, Israel.

Mentoring Awards

2015 *Eric Keto Prize in Theoretical Astrophysics* for PhD thesis of advisee Gongjie Li. **2012** *Eric Keto Prize in Theoretical Astrophysics* for PhD thesis of advisee Laura Blecha.

2006 Robert J. Trumpler Award of the *Astronomical Society of the Pacific* for the PhD thesis to advisee Steven Furlanetto.

Honors in Public Outreach

2014 Profiled in the New York Times Science Section by Claudia Dreifus on December 1, 2014.

2014 Profiled in DISCOVER Magazine by Steve Nadis on April 2014.

2014 Research featured on NPR Radio and Fox News TV.

2013 Profiled in Science Magazine by Rob Irion on April 2013.

2013 Chambliss Astronomical Writing Award from the American Astronomical Society, for the book “How Did the First Stars and Galaxies Form?” (2010).

2011-2015 Ten articles featured in TIME Magazine by Mike Lemonick about personal research papers.

2008 Cover story of Smithsonian magazine about black holes, and cover story of ASTRONOMY magazine about the future collision between the Milky-Way and Andromeda.

2007 Paper on *Milkomeda* (arXiv:0705.1170) was selected as one of the top 10 space stories by ASTRONOMY magazine.

Professional Service

2018- Ex-officio Member, U.S. Liaison Committee for the International Union of Pure and Applied Physics, National Academies.

2018 Member of the Consultation Group of the 2020 Decadal Survey in As-

tronomy and Astrophysics, National Academies.

2017- Ex-officio Member, U.S. National Committee for the International Astronomical Union.

2016- Member, President’s Task Force on Diversity and Belonging, Harvard University.

2014- Member, Board on Physics and Astronomy of the National Academies.

2014-2017 Member, Dean’s Faculty Resources Committee, Faculty of Arts & Sciences, Harvard University.

2014 Guest member, Editorial board, Annual Reviews of Astronomy & Astrophysics.

2013–2014 Physical Sciences Chair, Review Committee of Science Graduate Programs, Harvard University.

2013– Member, Allston Academic Planning Committee, Harvard University.

2013–2015 Member, Star Family Challenge Committee, Harvard University.

2011- Head of Astrophysics, Editorial Board, Scientific Reports, Nature Magazine.

2011-2014 Member, International Advisory Board, Publications of the Astronomical Society of Australia.

2009– Editor, Journal of Cosmology and Astroparticle Physics (JCAP).

2008–2010 Executive board for the *Energetic X-ray Imaging Survey Telescope*

2008–2010 Science Working Group for the *JANUS GRB Mission*

2008– Science Working Group for the *Lunar Radio Observatory*.

2008/9 Chair, selection committee of the Dan David Prize in cosmology.

2005–2008 Science Working Group for the *Cosmic Inflation Probe*.

2005– Science Working Group for the *Murchison Wide-Field Array*.

2000– Chair of the biennial *Harvard-Smithsonian Conference Series in Theoretical Astrophysics*, sponsored by Raymond and Beverly Sackler. The first conference on “The First Generation of Cosmic Structures” was held in May 2000 (<http://cfa-www.harvard.edu/apconf/>). The second conference on “Gamma-Ray Bursts: The Brightest Explosions in the Universe” was held in May 2002 (<http://cfa-www.harvard.edu/grbconf/>). The third conference on “Astrophysics of Planetary Systems” was held in May 2004 (<http://cfa-www.harvard.edu/apsconf/>). The fourth conference on “Nuclear Black Holes in Galaxies” was held in May 2006 (<http://cfa-www.harvard.edu/bh2006/>).

The fifth conference on “21cm Cosmology” was held in May 2008 (<http://www.cfa.harvard.edu/events/2008/cos2008/>).

The sixth conference on “Dynamics from the Galactic Center to the Milky-Way Halo” was held in May 2010 (<http://www.cfa.harvard.edu/events/2010/dyn/>).

The seventh conference on “Testing General Relativity with Astrophysical Systems” was held in May 2012 (<http://www.cfa.harvard.edu/events/2012/sackler>).

The eighth conference on “Debates of the Nature of Dark Matter” was held in May 2014 (<http://www.cfa.harvard.edu/events/2014/sackler>).

The ninth conference on “The Transient Sky” was held in May 2016 (<http://www.cfa.harvard.edu/events/2016/sackler>).

The tenth conference on “Gravitational Wave Astrophysics” was held in May 2018 (<https://itc.cfa.harvard.edu/sackler-conference-2018>).

1999–2000 Panel on Ultraviolet, Optical, and Infrared Astronomy from Space of the Astronomy and Astrophysics Survey Committee.

1998–2000 Science Working Group for the *Generation-X Space Telescope*.

1997–2000 Science Working Group for the *Next Generation Space Telescope*.

Undergraduate Students at Harvard College

Peter Young, Genevieve Shattow, Marion Dierickx, Ana-Maria Constantin, Henry Lin, Eden Girma, Amir Siraj, Mahlet Shiferaw.

Graduate Students (in chronological order)

Daniel Eisenstein (Hubble fellow, Professor at Univ. of Arizona, now tenured Professor at Harvard Univ.), Zoltán Haiman (Hubble fellow, tenured Professor at Columbia Univ.), Rosalba Perna (Harvard Junior fellow, Princeton Spitzer fellow, tenured Professor at SUNY Stony Brook), Eric Woods (teaching), Ravi Pilla (graduated), Alexandre Refregier (Professor, ETH Zurich, Switzerland), David Heyrovsky (graduated), Xiaohu Wang (graduated), Pinaki Chatterjee (graduated), Steven Furlanetto (prize postdoctoral fellowship at Caltech, tenured Professor at UCLA, Loren Hoffman (Lindheimer postdoctoral fellow, Northwestern, postdoc at Hebrew University), Daniel Babich (prize postdoctoral fellowship, Caltech), Ryan O’Leary (Einstein fellow, UC Berkeley), Genevieve Shattow (Swinburne), Joseph Munoz (researcher, Lincoln Labs), Bence Kocsis (Einstein fellow, ITC, postdoc IAS,

Professor in Hungary), Laura Blecha (Einstein fellow, Maryland; Assistant Professor, U. Florida), Idan Ginsburg (Dartmouth, research fellow at CfA), Eli Visbal (Prize postdoc at Columbia U., Research Fellow at Flatiron Institute, Professor at Univ. of Toledo), Nicholas Stone (Postdoc at Columbia U., Assistant Professor at Hebrew University), Douglas Rubin (graduated, finances), Tony Pan (graduated, CEO of “Modern Electron”), Jonathan Bitner (Physics, CEO of startup), Gongjie Li (Harvard Junior fellow, Assistant Professor at Georgia Tech), Natalie Mashian (Physics, research fellow in biophysics), Marion Dierickx (Astronomy, postdoc at Harvard), Pierre Christian (Astronomy, prize postdoc in Arizone), Anna Ijjas (Visiting PhD student), Anna Patej (Physics, Prize postdoc at U. Arizona), Xiawei Wang (Astronomy), Ben Margalit (Columbia U., postdoc at UC Berkeley), Aaron Smith (UT Austin), Delilah Gates (Physics), Sophia Sanchez-Maes (Astronomy), Betty Hu (Physics), Karina Mathew (English).

Visiting Graduate Students (in chronological order)

Dr. Girish Kulkarni (India), Dr. Urbano Franca (Spain), Dr. Kimi Hayasaki (Japan), Dr. Francisco Villaescusa-Navarro (Spain), Dr. Giacomo Fragione (Italy), Dr. Shmuel Bialy (Israel), Dr. Akshaya Rane (WVU, US), Dr. Erez Michaeli (Israel), Elisa Tabor (Stanford).

Postdoctoral fellows (in chronological order)

Anne Thoul (Prof. at Univ. of Liege, Belgium), Volker Bromm (Prof. at Univ. of Texas), Stuart Wyithe (Prof. at Univ. of Melbourne), Avery Broderick (Prof. at Univ. Waterloo, Canada), Misha Medvedev (Prof. at U. Kansas), Mark Dijkstra (MPA postdoc), Scott Gaudi (Prof. at Ohio-State U.), Jonathan Pritchard (Prof. at Imperial College, UK), Uri Keshet (Prof. at Ben Gurion Univ., Israel), Yuval Birnboim (Prof. at Hebrew Univ.), Bence Kocsis (Einstein fellow), Charlie Conroy (Prof. at Harvard), Yue Shen (Prof. at U. Illinois), Nico Yunes (Prof. at Univ. of Montana), Asaf Pe’er (Prof. at Cork Univ., Ireland), Smadar Naoz (Prof. at UCLA), Sayan Chakraborti (Harvard Society of Fellows), Konstantin Batygin (Prof. at Caltech), Yan-Fei Jiang (Einstein fellow), Lorenzo Sironi (Einstein fellow), James Guillochon (Einstein fellow), Cora Dvorkin (Hubble fellow), Igor Pikovski (Branco Weiss postdoctoral fellow), Blakesley Burkhart (Einstein fellow), Nia Imara (Fu-

ture Faculty Leader fellow, Harvard), Zac Manchester (SEAS postdoctoral fellow, Harvard), Girish Kulkarni (Cambridge U.), Nicola Amorisco (ITC fellow), Anastasia Fialkov (ITC fellow), John Forbes (ITC fellow), Ana Bonaca (ITC fellow), Laura Kreiberg (Harvard Junior Fellow), Nia Imara (John Harvard fellow), Dan D’Orazio (ITC fellow), Sownak Bose (ITC fellow), Manasvi Lingam (ITC fellow), Razi Emami (ITC fellow), Paul Chesler (BHI fellow), Hsin-Yu Chen (BHI fellow), Feraz Azhar (BHI fellow), Vokram Ravi (CfA fellow), Julian Munoz (CfA fellow), Mohammad Safarzadeh (ITC fellow), Karan Jani (Vanderbilt), Richard Annantua (ITC fellow), Morgan MacLeod (ITC fellow).

Abraham Loeb - LIST OF PUBLICATIONS

Books

8. Lingam, M., & Loeb, A. “*Life In The Cosmos: From Biosignatures to Technosignatures*”, Harvard University Press (June 2021).
7. Loeb, A. “*Extraterrestrial*”, Houghton Mifflin Harcourt (January 2021).
6. Loeb, A. (Eds. D. Sloan, R.A. Batista, M. T. Hicks & R. Davies), “*Fine-Tuning in the Physical Universe*”, Cambridge University Press (2020)
5. Loeb, A. “*From the First Star to Milkmeda*”, Kindle, Amazon (2015).
4. Loeb, A. “*From the First Star to the End of Time*” (in hebrew), Carmel Publishing House, Israel (2015).
3. Loeb, A., & Furlanetto, S., “*The First Galaxies in the Universe*”, Princeton Series in Astrophysics, Princeton University Press (2013).
2. Loeb, A. “*How Did the First Stars and Galaxies Form?*”, Frontiers in Physics Series, Princeton University Press (2010).
1. Loeb, A., Ferrara, A., & Ellis, R. S. “*First Light in the Universe*”, SAAS-Fee winter school, Springer, New York (2008).

Papers and Essays

817. Lingam, M., & Loeb, A. “The Extended Habitable Epoch of the Universe for Liquids Other than Water”, ApJ (2021). [arXiv:2101.10341]
816. Lingam, M., & Loeb, A. “Physical Constraints on Motility with Applications to Possible Life on Mars and Enceladus”, ApJ (2021). [arXiv:2101.06876]
815. Rodriguez, C., Kremer, K., Chatterjee, S., Fragione, G., Loeb, A., Rasio, F., Weatherford, N., & Ye, C. “The Observed Rate of Binary Black Hole Mergers can be Entirely Explained by Globular Clusters”, RNAAS (2021). [arXiv:2101.07793]

814. Fragione, G., & Loeb, A. “Constraining Neutron Star Radii in Black Hole-Neutron Star Mergers from their Electromagnetic Counterparts”, *ApJ* (2021). [arXiv:2101.07313]
813. Fragione, G., & Loeb, A. “Constraining Neutron Star Radii in Black Hole-Neutron Star Mergers from their Electromagnetic Counterparts”, *ApJ* (2021). [arXiv:2101.07313]
812. Loeb, A. “The Shrapnel that Killed the Dinosaurs”, *Scientific American* (2021). [<https://www.cfa.harvard.edu/~loeb/Dino.pdf>]
811. Emami, R., Anantua, R., Chael, A., & Loeb, A. “Positron Effects on Polarized Images and Spectra from Jet and Accretion Flow Models of M87 and Sgr A*”, *ApJ* (2021). [arXiv:2101.05327]
810. Siraj, A., & Loeb, A. “The Copernican Principle Rules Out BLC1 as a Technological Radio Signal from the Alpha Centauri System”, *ApJL* (2021). [arXiv:2101.04118]
809. Loeb, A. “The Black Hole that Might Have Shaped Life on Earth”, *Scientific American* (2021). [<https://www.cfa.harvard.edu/~loeb/tde.pdf>]
808. Loeb, A. “Experimental Tests of Theology”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/G.pdf>]
807. Tremaine, S., Kocsis, B., & Loeb, A. “Thermal Equilibrium of an Ideal Gas in a Free-Floating Box”, *American J. of Phys.* (2020). [arXiv:2012.13273]
806. Unal, C., Pacucci, F., & Loeb, A. “Properties of Ultralight Bosons from Heavy Quasar Spins via Superradiance”, *JCAP* (2020). [arXiv:2012.12790]
805. Loeb, A. “Message from Our Nearest Star?”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Proxima.pdf>]
804. Loeb, A. “Our Neighbors Grass May Not Be Green”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/UFO.pdf>]
803. Loeb, A. “The Cosmic Dawn of Technology”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Cos.pdf>]

802. Padmanabhan, H., & Loeb, A. “Distinguishing AGN from Starbursts as the Origin of Double Peaked Lyman-Alpha Emitters in the Reionization Era”, *A&A* (2020). [arXiv:2011.14900]
801. Siraj, A., & Loeb, A. “Interstellar Objects Outnumber Solar System Objects in the Oort Cloud”, *ApJL* (2020). [arXiv:2011.14900]
800. Vagozzi, S., Loeb, A., & Moresco, M., “Eppur e piatto? The Cosmic Chronometer Take on Spatial Curvature and Cosmic Concordance”, *ApJ* (2020). [arXiv:2011.11645]
799. Loeb, A. “Multi-Messenger SETI”, *Scientific American* (2020). [<https://www.cfa.harvard.edu>]
798. Loeb, A. “Our Conversation with the Sky”, *Pioneer Works* (2020). [<https://www.cfa.harvard.edu/~loeb/Arecibo.pdf>]
797. Fragione, G., & Loeb, A. “Implications of Recoil Kicks for Black Hole Mergers from LIGO/Virgo Catalogs”, *ApJL* (2020). [arXiv:2011.08935]
796. Loeb, A. “Inexhaustible Creation Out of Nothing”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/AST.pdf>]
795. Loeb, A. “Noah’s Spacecraft”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Noah.pdf>]
794. Loeb, A. “The Non-Medical Benefits of Social Distancing”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Med.pdf>]
793. Bose, S., & Loeb, A. “Measuring the Mass and Concentration of Dark Matter Halos from the Velocity Dispersion Profile of Their Stars”, *ApJL* (2020). [arXiv:2010.15123]
792. Loeb, A. “Restoring Confidence In Evidence Based Science”, *Wall Street Journal* (2020). [<https://www.cfa.harvard.edu/~loeb/WSJ.pdf>]
791. Loeb, A. “The Empty Part of the Glass Is Also Full”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/DA.pdf>]
790. Loeb, A. “Black Holes Are Finally In Vogue”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/BH.pdf>]
789. Loeb, A. “Taking Risks Should be Mainstream In Science”, *NYT* (2020). [<https://www.cfa.harvard.edu/~loeb/Exp.pdf>]

788. Siraj, A., & Loeb, A. “Observable Signatures of the Ejection Speed of Interstellar Objects from their Birth Systems”, *ApJL* (2020). [arXiv:2010.02214]
787. Loeb, A. “Living Near a White Dwarf”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/Solar.pdf]
786. Loeb, A. “Life and Fate”, *Inference* (2020). [https://inference-review.com/letter/life-and-fate]
785. Siraj, A., & Loeb, A. “Transfer of Life Between Earth and Venus with Planet-Grazing Asteroids”, *ApJL* (2020). [arXiv:2009.09512]
784. Loeb, A. “Searching for the Atoms of Life”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/Atom.pdf]
783. Emami, R., et al. (with Loeb, A.) “DM halo morphological types of MW-like galaxies in the TNG50 simulation: Simple, Twisted, or Stretched”, *ApJ* (2020). [arXiv:2009.09220]
782. Lingam, M., & Loeb, A. “Constraints on the abundance of 0.01c stellar engines in the Milky Way”, *ApJL* (2020). [arXiv:2009.08874]
781. Lingam, M., & Loeb, A. “On The Biomass Required To Produce Phosphine Detected In The Cloud Decks Of Venus”, *ApJL* (2020). [arXiv:2009.07835]
780. D’Orazio, D. J., & Loeb, A. “Using Gravitational Wave Parallax to Measure the Hubble Parameter with Pulsar Timing Arrays”, *Phys. Rev. D* (2020). [arXiv:2009.06084]
779. Loeb, A. “Post COVID-19 Academia”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/Career.pdf]
778. Fragione, G., Loeb, A., & Rasio, F. A. “On the Origin of GW190521-like Events from Repeated Black Hole Mergers in Star Clusters”, *ApJL* (2020). [arXiv:2009.05065]
777. Loeb, A. “Nature’s Splendor Exceeds Our Imagination”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/Imagine.pdf]
776. Fragione, G., & Loeb, A. “An Upper Limit on the Spin of SgrA* based on Stellar Orbits in its Vicinity”, *ApJL* (2020). [arXiv:2008.11734]

775. Loeb, A. “Social Distancing of Cosmic Proportions”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Baby.pdf>]
774. Lingam, M., & Loeb, A. “Potential For Liquid Water Biochemistry Deep Under The Surfaces Of The Moon, Mars And Beyond”, *ApJL* (2020). [arXiv:2008.08709]
773. Loeb, A. “The Hawking Limit”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Hawking.pdf>]
772. Vick, M., MacLeod, M., Lai, D. & Loeb, A. “Tidal Dissipation Impact on the Eccentric Onset of Common Envelope Phases in Massive Binary Star Systems”, *ApJL* (2020). [arXiv:2008.05476]
771. Tabor, E., & Loeb, A. “FRB 121102 Bursts at a Constant Rate per Log Time”, *ApJL* (2020). [arXiv:2008.02809]
770. Loeb, A. “Intellectual Territorialism”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/IntellectualTerritorialism.pdf>]
769. Loeb, A. “What if We Lived a Million Years?”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Li.pdf>]
768. Padmanabhan, H., & Loeb, A. “Constraining the Host Galaxy Halos of Massive Black Holes from LISA Event Rates”, *JCAP* (2020). [arXiv:2007.12710]
767. Siraj, A., & Loeb, A. “The Case for an Early Solar Binary Companion”, *ApJL* (2020). [arXiv:2007.10339]
766. Jani, K., & Loeb, A. “Gravitational-Wave Lunar Observatory for Cosmology”, *PRL* (2020). [arXiv:2007.08550]
765. MacLeod, M., & Loeb, A. “Hydrodynamic Winds From Twin-Star Binaries”, *ApJ* (2020). [arXiv:2007.07252]
764. Loeb, A. “Filming the Evolving Universe”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Mom.pdf>]
763. Hoang, T., & Loeb, A. “Detectability of Thermal Emission from Sub-Relativistic Objects”, *Acta Astronautica* (2020). [arXiv:2007.04892]
762. Loeb, A. “Geometry of the Universe”, *Astronomy magazine* (2020). [<https://www.cfa.harvard.edu/~loeb/Geo.pdf>]

761. Safarzadeh, M., & Loeb, A. “Formation of Mass-Gap Objects in Highly Asymmetric Mergers”, *ApJL* (2020). [arXiv:2007.00847]
760. Loeb, A. “Scientific Brainstorming”, *Scientific American* (2020). [<https://www.cfa.harvard.edu>]
759. Fragione, G., Perna, R., & Loeb, A. “Calibrating the Binary Black Hole Population in Nuclear Star Clusters Through Tidal Disruption Events”, *MNRAS* (2020). [arXiv:2006.14632]
758. Siraj, A., & Loeb, A. “Risks for Life on Proxima b from Sterilizing Asteroid Impacts”, *ApJL* (2020). [arXiv:2006.12503]
757. Loeb, A. “An Audacious Explanation for Fast Radio Bursts”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Hy.pdf>]
756. Safarzadeh, M., Toonen, S., & Loeb, A. “The Nearest Discovered Black Hole Is Likely Not In a Triple Configuration”, *ApJL* (2020). [arXiv:2006.11872]
755. Hoang, T., & Loeb, A. “Destruction of molecular hydrogen ice and Implications for 1I/2017 U1 (‘Oumuamua)”, *ApJL* (2020). [arXiv:2006.08088]
754. Loeb, A. “Living With Scientific Uncertainty”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Un.pdf>]
753. Lingam, M., & Loeb, A. “Aquatic Biospheres On Temperate Planets Around Sun-like Stars And M-dwarfs”, *PSJ* (2020). [arXiv:2005.14387]
752. Siraj, A., & Loeb, A. “Searching for Black Holes in the Outer Solar System with LSST”, *ApJ* (2020). [arXiv:2005.12280]
751. Turyshev, S., Klupar, P., Loeb, A., Manchester, Z., Parkin, K., Witten, E. & Worden, P. “Exploration of the Outer Solar System with Fast and Small Sailcraft”, *Decadal White Paper* (2020). [arXiv:2005.12336]
750. Christian, P., & Loeb, A. “Detecting Black Hole Occultations by Stars with Space Interferometric Telescopes”, *ApJ* (2020). [arXiv:2005.03042]
749. Loeb, A. “Theories of Everything Could Be False”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Test.pdf>]

748. Loeb, A. “The End of Time Could Be Of Our Own Making”, *Inference* (2020). [https://www.cfa.harvard.edu/~loeb/Loeb_Inference.pdf]
747. Domenech, G., Chen, X, Kamionkowski, M., & Loeb, A. “Lensing Anomaly as a Fingerprint of Alternative Scenarios to Inflation”, *PRD* (2020). [arXiv:2005.08998]
746. Loeb, A. “Scientific Excellence is Not Just About Technical Skills”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Ideas.pdf>]
745. Christian, P., & Loeb, A. “Detecting Black Hole Occultations by Stars with Space Interferometric Telescopes”, *ApJ* (2020). [arXiv:2005.03042]
744. Hoang, T., & Loeb, A. “Can Planet Nine Be Detected Gravitationally by a Sub-Relativistic Spacecraft?”, *ApJL* (2020). [arXiv:2005.01120]
743. Safarzadeh, M., Biscoveanu, & Loeb, A. “Constraining the delay time distribution of compact binary objects from the stochastic gravitational wave background searches”, *ApJL* (2020). [arXiv:2004.12999]
742. Loeb, A., & Gil, D. “COVID-19: A Moon Landing Moment for Science?”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/Loeb_Gil.pdf]
741. Siraj, A., & Loeb, A. “Impact of Dust Grains Accelerated by Supernovae on the Moon”, *ApJL* (2020). [arXiv:2004.11379]
740. Loeb, A. “A Sobering Astronomical Reminder from COVID-19”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/C19.pdf>]
739. Lingam, M., & Loeb, A. “What is in a Name: the Etymology of Astrobiology”, *Int. J. Astrobiology* (2020). [arXiv:2004.11312]
738. Loeb, A. “Why the Pursuit of Scientific Knowledge Will Never End”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Limit.pdf>]
737. Pacucci, F., & Loeb, A. “Separating Accretion and Mergers in the Cosmic Growth of Black Holes with X-ray and Gravitational Wave Observations”, *ApJ* (2020). [arXiv:2004.07246]
736. Hu, B., & Loeb, A. “An Upper Limit on the Initial Temperature of the Radiation-Dominated Universe”, *PRL* (2020). [arXiv:2004.02895]

735. Siraj, A., & Loeb, A. “Repeated Impact-Driven Plume Formation On Enceladus Over Myr Timescales”, *ApJL* (2020). [arXiv:2003.07866]
734. Padmanabhan, H., & Loeb, A. “Changing Look Quasars From Tidal Disruption Flares”, *MNRAS* (2020). [arXiv:2003.07365]
733. Burkert, A., & Loeb, A. “Flattening the COVID-19 Curves”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/COVID.pdf]
732. Chesler, P. M., & Loeb, A. “Holographic duality and mode stability of de Sitter space in semiclassical gravity”, *PRD* (2020). [arXiv:2003.05501]
731. MacLeod, M., & Loeb, A. “Pre-Common-Envelope Mass Loss from Coalescing Binary Systems”, *ApJ* (2020). [arXiv:2003.01123]
730. Unal, C., & Loeb, A. “The Spin Dependence of the Fundamental Plane of Black Hole Activity”, *MNRAS* (2020). [arXiv:2002.11778]
729. Fragione, G., Loeb, A., & Rasio, F. A. “Merging Black Holes in the Low-Mass and High-Mass Gaps from 2+2 Quadruple Systems”, *ApJ* (2020). [arXiv:2002.11278]
728. Loeb, A. “Searching for Naked Singularities on the Sky”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/NS.pdf]
727. Lingam, M., & Loeb, A. “Propulsion of Spacecrafts to Relativistic Speeds Using Natural Astrophysical Sources”, *ApJ* (2020). [arXiv:2002.03210]
726. Loeb, A. “The Endless Pursuit of Knowledge”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/Limit.pdf]
725. Fragione, G., Loeb, A., Kremer, K., & Rasio, F. A. “Gravitational Wave Captures by Intermediate Mass Black Holes”, *ApJ* (2020). [arXiv:2002.02975]
724. Loeb, A. “Why Have Students?”, *Scientific American* (2020). [https://www.cfa.harvard.edu/~loeb/WhyHaveStudents.pdf]
723. Padmanabhan, H., & Loeb, A. “New Empirical Constraints on the Cosmological Evolution of Gas and Stars in Galaxies”, *MNRAS* (2020). [arXiv:2002.01489]
722. Siraj, A., & Loeb, A. “Observational Signatures of Sub-Relativistic Meteors”, *ApJ* (2020). [arXiv:2002.01476]

721. Hayasaki, K., Bate, M. R., & Loeb, A. “Ionization and Dissociation Induced Fragmentation of a Tidally Disrupted Star Into Planets Around a Supermassive Black Hole”, *Nature* (2020). [arXiv:2001.04172]
720. Siraj, A., & Loeb “Detecting Interstellar Objects Through Stellar Occultations”, *ApJL* (2020). [arXiv:2001.02681]
719. Siraj, A., & Loeb “Transfer of Life by Earth-Grazing Objects to Exoplanetary Systems”, *J. Int. Astrobiology* (2020). [arXiv:2001.02234]
718. Loeb, A. “Darwinian Survival Favors Generalists”, *Scientific American* (2020). [<https://www.cfa.harvard.edu/~loeb/Gen.pdf>]
717. Loeb, A. “Upper Limit on the Dissipation of Gravitational Waves in Gravitationally-Bound Systems”, *ApJL* (2020). [arXiv:2001.01730]
716. Loeb, A. “Surfing on a Flash of Light from an Exploding Star”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/SN.pdf>]
715. Loeb, A. “Can the Universe Provide the Meaning of Life?”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Meaning.pdf>]
714. Padmanabhan, H., & Loeb, A. “It is Feasible to Directly Measure Black Hole Masses in the First Galaxies”, *ApJL* (2019). [arXiv:1912.0555]
713. MacLeod, M., & Loeb, A. “Runaway Coalescence of Pre-Common-Envelope Stellar Binaries”, *ApJ* (2019). [arXiv:1912.05545]
712. Lingam, M., & Loeb, A. “Constraints on Aquatic Photosynthesis for Terrestrial Planets Around Other Stars”, *ApJL* (2019). [arXiv:1912.04301]
711. Gottlieb, O., & Loeb, A. “Electromagnetic signals from the Decay of Free Neutrons in the First Hours of Neutron Star Mergers”, *MNRAS* (2019). [arXiv:1912.04289]
710. Lingam, M., & Loeb, A. “Habitable Age Instead of Location for Terrestrial Worlds”, *ApJL* (2019). [arXiv:1912.02862]
709. Loeb, A. “The Simple Truth”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Simple.pdf>]

708. Loeb, A. “A Tale of Three Frontiers”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Tale.pdf>]
707. Safarazadeh, M., Hamers, A., Loeb, A. & Berger, E. “Formation of Mass Gap Black Holes in Gravitational Wave Merger Events from Wide Hierarchical Quadruple Systems”, *ApJL* (2019). [arXiv:1911.04495]
706. Lingam, M., & Loeb, A. “Electric Sails Are Potentially More Effective Than Light Sails Near Most Stars”, *Acta Astronautica* (2019). [arXiv:1911.02765]
705. Azhar, F., & Loeb, A. “Finely-Tuned Models Sacrifice Explanatory Depth”, *British Journal for the Philosophy of Science* (2019). [arXiv:1910.13608]
704. Loeb, A. “Essential Advice for Fledgling Scientists”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Tips.pdf>]
703. Loeb, A. “What To Do When The Sun Will Brighten?”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Sun.pdf>]
702. Pacucci, F., & Loeb, A. “Reality or Mirage? Observational Test and Implications for the Claimed Extremely Magnified Quasar at $z = 6.3$ ”, *ApJL* (2019). [arXiv: 1910.10156]
701. Jani, K., & Loeb, A. “Global Stellar Budget for LIGO Black Holes”, *ApJL* (2019). [arXiv:1910.09580]
700. Loeb, A. “Terrestrial Life May Have Been Exported Out of the Solar System on Earth-Grazing Bodies”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Skim.pdf>]
699. Siraj, A., & Loeb “Exporting Terrestrial Life Out of the Solar System with Gravitational Slingshots of Earthgrazing Bodies”, *J. Int. Astrobiology* (2019). [arXiv:1910.06414]
698. Emami, R., & Loeb, A. “Probing Intermediate Mass Black Holes in M87 through Multi-Wavelength Gravitational Wave Observations”, *MNRAS*, submitted (2019). [arXiv:1910.04828]
697. D’Orazio, D. J., & Loeb, A. “Repeated Gravitational Lensing of Gravitational Waves in Hierarchical Black Hole Triples”, *Phys. Rev. D* (2019). [arXiv:1910.02966]

696. Anantua, R., Emami, R., & Loeb, A. “Determining the Composition of Relativistic Jets from Polarization Maps”, *ApJ* (2019). [arXiv:1909.09230]
695. Loeb, A. “Science is Not About Getting More Likes”, *Scientific American* (2019).
[<https://www.cfa.harvard.edu/~loeb/BP.pdf>]
694. Lingam, M., Ginsburg, I., & Loeb, A. “Prospects for Life on Temperate Planets Around Brown Dwarfs”, *MNRAS* (2019). [arXiv:1909.08791]
693. Siraj, A., & Loeb, A. “An Argument for a Kilometer-Scale Nucleus of C/2019 Q4”, *RNAAS* (2019). [arXiv:1909.07286]
692. Agarwal, D. et al. (with A. Loeb) “A Fast Radio Burst in the Direction of the Virgo Cluster”, *MNRAS* (2019). [arXiv:1909.05779]
691. Chen, H.-Y., Chesler, P., & Loeb, A. “Searching for Quark Cores With Binary Neutron Star Inspirals”, *PRD* (2019). [arXiv:1909.04096]
690. Munoz, J., Ravi, V., & Loeb, A. “Periodic Fast Radio Bursts from Young Neutron Stars”, *ApJ* (2019). [arXiv:1909.00004]
689. Siraj, A., & Loeb, A. “Radio Flares from Collisions of Neutron Stars with Interstellar Asteroids”, *RNAAS* (2019). [arXiv:1908.11440]
688. Loeb, A. “The Moon as a Fishing Net for Extraterrestrial Life”, *Scientific American* (2019).
[<https://www.cfa.harvard.edu/~loeb/ML.pdf>]
687. Siraj, A., & Loeb, A. “A Real-Time Search for Interstellar Impact on the Moon”, *Acta Astronautica* (2019). [arXiv:1908.08543]
686. Kreidberg, L., et al. (with A. Loeb), “Absence of a Thick Atmosphere on the Terrestrial Exoplanet LHS 3844b”, *Nature* (2019). [arXiv:1908.06834]
685. Lingam, M., & Loeb, A. “Photosynthesis on Exoplanets and Exomoons from Reflected Light”, *J. Int. Astrobiology* (2019). [arXiv:1907.12576]
684. Loeb, A. “Nothing Persists Except Change Itself”, *Scientific American* (2019).
[<https://www.cfa.harvard.edu/~loeb/PF.pdf>]

683. Fragione, G., & Loeb, A. “Black Holes-Neutron Stars Mergers from Triples II: the Role of Metallicity and Spin-Orbit Misalignment”, MNRAS (2019). [arXiv:1907.08614]
682. Fragione, G., Ginsburg, I. & Loeb, A. “Supernovae in Massive Binaries and Compact Object Mergers Near Supermassive Black Holes”, JCAP (2019). [arXiv:1907.08008]
681. Lingam, M., & Loeb, A. “Searching the Moon for Extrasolar Material and the Building Blocks of Extraterrestrial Life”, PNAS (2019). [arXiv:1907.05427]
680. Loeb, A. “Science as a Way of Life”, Scientific American (2019). [https://www.cfa.harvard.edu/~loeb/PL.pdf]
679. Loeb, A., & Tripathi, A. “Federal Leadership of Future Moonshots”, Scientific American (2019). [https://www.cfa.harvard.edu/~loeb/Moon.pdf]
678. Chesler, P., Jokela, N., Loeb, A., & Vourinen, A. “Finite-Temperature Equations of State for Neutron Star Mergers”, Phys. Rev. D (2019). [arXiv:1906.08440]
677. Loeb, A. “One Thing to Change About the World”, Harvard Gazette (2019). [https://news.harvard.edu/gazette/story/2019/06/focal-point-harvard-professor-avi-loeb-wants-more-scientists-to-think-like-children/]
676. Siraj. A., & Loeb, A. “Halo Meteors”, MNRAS (2019). [arXiv:1906.05291]
675. Loeb, A. “It Takes a Village to Declassify an Error Bar”, Scientific American (2019). [https://www.cfa.harvard.edu/~loeb/Bar.pdf]
674. Schroder, S., MacLeod, M., Loeb, A., Sirajmmmez, A. & Mandel, I. “Explosions Driven by the Coalescence of a Compact Object with the Core of a Massive-Star Companion Inside a Common Envelope: Circumstellar Properties, Light Curves, and Population Statistics”, ApJ (2019). [arXiv:1906.04189]

673. Siraj , A. & Loeb, A. “Probing Extrasolar Planetary Systems with Interstellar Meteors”, *ApJL*, (2019). [arXiv:1906.03270]
672. Lingam, M. & Loeb, A. “Brown Dwarf Atmospheres As The Potentially Most Detectable And Abundant Sites For Life”, *ApJ*, (2019). [arXiv:1905.11410]
671. Safarzadeh, M., Loeb, A., & Reid, M. “Constraining a black hole companion for M87* through imaging by the Event Horizon Telescope”, *MNRAS* (2019). [arXiv:1905.06835]
670. Loeb, A. “In Search of Green Dwarfs”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Green.pdf>]
669. Loeb, A. “Scientific Transparency”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Pub.pdf>]
668. Loeb, A. “The Second Interstellar Visitor”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Meteor.pdf>]
667. Siraj, A., & Loeb, A. “Discovery of a Meteor of Interstellar Origin”, *ApJL* (2019). [arXiv:1904.07224]
666. Safarzadeh, M., & Loeb, A. “Explaining the Enhanced Star Formation Rate of Jellyfish Galaxies in Galaxy Clusters”, *MNRAS* (2019). [arXiv:1904.05900]
665. Fragione, G., & Loeb, A., “Black Hole-Neutron Star Mergers from Triples”, *MNRAS* (2019). [arXiv:1903.10511]
664. Loeb, A. “Two Laboratory Experiments with Theological Implications”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Get.pdf>]
663. K. Vattis, S. M. Koushiappas, & Loeb, A. “Late Universe Decaying Dark Matter Can Relieve the H_0 Tension”, *Phys. Rev. Lett.* (2019). [arXiv:1903.06220]
662. Loeb, A. “Protecting Scientific Innovation from Social Pressure”, *Scientific American* (2019). [<https://www.cfa.harvard.edu/~loeb/Co.pdf>]

661. L. Kreidberg, et al. “Absence of a Thick Atmosphere on the Terrestrial Exoplanet LHS 3883b”, *Nature* (2019).
660. Emami, R., & Loeb, A. “Segregation of Stellar-Mass Black Holes at the Galactic Center”, *Phys. Rev. D* (2019). [arXiv:1903.02578]
659. Emami, R., & Loeb, A. “Gravitational Waves from Stellar-Mass Black Holes Around SgrA*”, *Phys. Rev. Lett.* (2019). [arXiv:1903.02579]
658. Loeb, A. “Humanities of the Future”, *Scientific American* (2019). [https://www.cfa.harvard.edu/~loeb/Hum.pdf]
657. Wang, X., & Loeb, A. “Non-Thermal Emission from the Interaction of Magnetized Exoplanets with the Wind of Their Host Star”, *ApJL* (2019). [arXiv:1902.05165]
656. Loeb, A. “Life Near a Black Holes”, *Scientific American* (2019). [https://www.cfa.harvard.edu/~loeb/Fun.pdf]
655. Siraj, A., & Loeb, A. “Oumuamua’s Geometry Could Be More Extreme than Previously Inferred”, accepted for publication in *RNAAS* (2018). [https://www.cfa.harvard.edu/~loeb/SL.pdf]
654. Loeb, A. “Are we Really the Smartest Kid on the Block?”, *Scientific American* (2019). [https://www.cfa.harvard.edu/~loeb/Kid.pdf]
653. Safarzadeh, M., & Loeb, A. “An Upper Limit on Primordial Magnetic Field from Ultra-Faint Dwarf Galaxies”, *ApJL* (2019). [arXiv:1901.03341]
652. Lingam, M., & Loeb, A. “Photosynthesis on Habitable Planets Around Low Mass Stars” to *MNRAS* (2019). [arXiv:1901.01270]
651. Loeb, A. “Embracing Nature All the Way from Walden Pond to Extraterrestrial Ponds”, *Scientific American* (2019). [https://www.cfa.harvard.edu/~loeb/Th.pdf]
650. Loeb, A. “Advanced Extraterrestrials Are an Approximation to God”, *Scientific American* (2019). [https://www.cfa.harvard.edu/~loeb/GE.pdf]

649. Forbes, J., & Loeb, A. “Turning up the Heat on ‘Oumuamua”, to ApJL (2019). [arXiv:1901.00508]
648. Siraj, A., & Loeb, A. “Identifying Interstellar Objects Trapped in the Solar System through Their Orbital Parameters” to MNRAS (2018). [arXiv:1811.09632]
647. Loeb, A. “Our Future in Space Will Echo Our Future on Earth”, Scientific American, Observations (2018). [https://www.cfa.harvard.edu/~loeb/Fut.pdf]
646. Loeb, A. “How to Approach ‘Oumuamua”, Scientific American, Observations (2018). [https://www.cfa.harvard.edu/~loeb/Pre.pdf]
645. Loeb, A. “Six Strange Facts About Our First Interstellar Guest, ‘Oumuamua”, Scientific American, Observations (2018). [https://www.cfa.harvard.edu/~loeb/L_T.pdf]
644. Ravi, V., & Loeb, A. “Explaining the Statistical Properties of Fast Radio Bursts with Suppressed Low-Frequency Emission”, ApJ (2018). [arXiv:1811.00109]
643. Pacucci, F., & Loeb, A. “Most Lensed Quasars at $z > 6$ Are Missed by Current Surveys”, ApJL (2018). [arXiv:1810.12302]
642. Bialy, S., & Loeb, A. “Could Solar Radiation Pressure Explain ‘Oumuamua’s Peculiar Acceleration?”, ApJL (2018). [arXiv:1810.11490]
641. Emami R., & Loeb, A. “Formation Redshift of the Massive Black Holes Detected by LIGO”, Phys. Rev. Lett. (2018). [arXiv:1810.09257]
640. Loeb, A. “Seeking the Truth When it is Not the Consensus”, Scientific American, Observations (2018). [https://www.cfa.harvard.edu/~loeb/Loeb_A.pdf]
639. Ginsburg, I., Lingam, M., & Loeb, A. “Galactic Panspermia”, ApJ (2018). [arXiv:1810.04307]
638. Loeb, A. “Making the Church Taller”, , Scientific American, Observations (2018). [https://www.cfa.harvard.edu/~loeb/Loeb_Shape.pdf]

637. Lingam, M., & Loeb, A. “Physical Constraints on the Evolution of Life on Exoplanets”, Invited Colloquium for Review of Modern Physics (2018). [arXiv:1810.02007]
636. Lingam, M., & Loeb, A. “Dependence of Biological Activity on the Surface Water Fraction of Planets”, ApJ (2018). [arXiv:1809.09118]
635. Loeb, A. “Searching for Relics of Dead Civilizations”, Scientific American, Observations (2018). [https://www.cfa.harvard.edu/~loeb/Loeb_R.pdf]
634. Azhar, F., & Loeb, A. “Gauging Fine-Tuning”, Phys. Rev. D, (2018). [arXiv:1809.06220]
633. Guo, H., Liu, X., Shen, Y., Loeb, A., Monroe, T., & Prochaska, J. “Constraining Sub-Parsec Binary Supermassive Black Holes in Quasars with Multi-Epoch Spectroscopy. III. Candidates from Continued Radial Velocity Tests”, MNRAS (2018). [arXiv:1809.04610]
632. Munoz, J., & Loeb A. “Finding the Missing Baryons with Fast Radio Bursts and Sunyaev-Zeldovich Maps”, PRD (2018). [arXiv:1809.04074]
631. Chen, X., Loeb, A. & Xianyu, Z. “ Unique Fingerprints of Alternatives to Inflation in the Primordial Power Spectrum”, Phys. Rev. Lett. (2018). [arXiv:1809.02603]
630. Rodriguez, C. L., & Loeb, A. “Redshift Evolution of the Black Hole Merger Rate from Globular Clusters”, ApJL (2018). [arXiv:1809.01152]
629. Yalinewich, A., Guillochon, J., Sari, R. & Loeb, A. “Shock Breakouts from Tidal Disruption Events”, MNRAS (2018). [arXiv:1808.10447]
628. D’Orazio, D., & Loeb, A. “Detecting the Orbital Motion of Nearby Supermassive Black Hole Binaries with Gaia”, MNRAS, (2018). [arXiv:1808.09974]
627. Pacucci, F., Loeb, A., Mezcua M., & Martin-Navarro, I. “Glimmering in the Dark: Modeling the Low-Mass End of the $M_{\text{bh}}-\sigma$ Relation and the Quasar Luminosity Function”, ApJ Letters (2018). [arXiv:1808.09452]
626. Loeb, A. “Two Facets of Reality”, Scientific American, Observations (2018). [https://www.cfa.harvard.edu/~loeb/Loeb_P.pdf]

625. Lingam, M., & Loeb, A. “Limitations of Chemical Propulsion for Interstellar Escape from Habitable Zones around Low-Mass Stars”, AAS Research Notes (2018). [arXiv:1808.08141]
624. Loeb, A., & Lingam, M. “In Search for Lost Intellectual Treasures” to *Project Syndicate* (2018). [https://www.cfa.harvard.edu/~loeb/Loeb_Lingam.pdf]
623. Opher, M., Loeb, A., Drake, J. & Toth, G. “A Predicted Small and Round Heliosphere” to *Nature Astronomy* (2018). [arXiv:1808.06611]
622. Loeb, A. “Progress Through Anomalies”, published in *Scientific American* (2018). [https://www.cfa.harvard.edu/~loeb/Loeb_Anomaly.pdf]
621. Loeb, A. “Sailing on Light”, *Forbes Science*, Aug 16 (2018). [https://www.cfa.harvard.edu/~loeb/Loeb_Sailing_on_Light.pdf]
620. Scherrer, R. J., & Loeb, A. “The Relation Between Transverse and Radial Velocity Distributions for Observations of an Isotropic Velocity Field”, *MNRAS* (2018). [arXiv:1808.01208]
619. Amorisco, N. C., & Loeb, A. “First Constraints on Fuzzy Dark Matter from the Dynamics of Stellar Streams in the Milky Way”, to *JCAP* (2018). [arXiv:1808.00464]
618. Loeb, A. “Our Dialogue With Nature”, *Scientific American* (August 2018). [https://www.cfa.harvard.edu/~loeb/Loeb_Science.pdf]
617. Loeb, A. “The Infinite-Sum Game”, *Scientific American* (July 31, 2018). [https://www.cfa.harvard.edu/~loeb/Loeb_Sum.pdf]
616. Lingam, M., & Loeb, A. “Relative Likelihood of Success in the Searches for Primitive versus Intelligent Extraterrestrial Life”, *Astrobiology* (2018). [arXiv:1807.08879]
615. Girma, E., & Loeb, A. “Astrometric Detection of Intermediate-Mass Black Holes At the Galactic Centre”, *MNRAS* (2018). [arXiv:1807.02469]
614. D’Orazio, D., Loeb, A. & Guillochon, J. “Constraining the Stellar Mass Function from the Deficiency of Tidal Disruption Flares in the Nuclei of Massive Galaxies”, *MNRAS* (2018). [arXiv:1807.00029]
613. Loeb, A., & Munoz, J. “The First Stars May Shed Light on Dark Matter”, *Physics* **11**, 69 (2018). [<https://physics.aps.org/articles/v11/69>][arXiv:1807.01531]

612. Loeb, A. “Where Do Ideas Come From?”, for publication (2018). [arXiv:1806.10092]
611. Loeb, A. “Securing Fuel for Our Frigid Cosmic Future”, accepted for publication in *Scientific American* (2018). [arXiv:1806.07170]
610. Fragione, G., Loeb, A., & Ginsburg, I. “A Dynamical Origin for Planets in Triple Star Systems”, *MNRAS* (2018). [arXiv:1806.05189]
609. Loeb, A. “Experimental Tests of Spirituality”, *Scientific American* (2018). [arXiv:1806.01661]
608. Loeb, A. “Implications of Neutron Star Mergers for Extraterrestrial Civilizations”, *Scientific American* (2018). [arXiv:1803.04919]
607. Lingam, M., & Loeb, A. “Is Extraterrestrial Life Suppressed on Sub-surface Ocean Worlds due to the Paucity of Bioessential Elements?” to *PNAS* (2018). [arXiv:1806.00018]
606. Forbes, J., & Loeb, A. “On the Existence of Brown Dwarfs More Massive Than the Hydrogen Burning Limit”, *ApJ* (2018). [arXiv:1805.12143]
605. Loeb, A. “Lets Talk About Black Hole Singularities”, accepted for publication in *Scientific American* (2018). [arXiv:1805.05865]
604. Bose, S., Ginsburg, I. & Loeb, A. “Dating Tidal Distrution of Globular Clusters with Gaia Data on their Stellar Streams”, *ApJ* (2018). [arXiv:1804.07770]
603. Loeb, A. “Interstellar Escape from Proxima b is Barely Possible with Chemical Rockets”, accepted for publication in *Scientific American* (2018). [arXiv:1804.03698]
602. Wang, X., & Loeb, A. “Self-Sustaining Star Formation Fronts in Filaments During Cosmic Dawn”, *ApJL* (2018). [arXiv:1804.02407]
601. Lingam, M., & Loeb, A. “Role of Stellar Physics in Regulating the Critical Steps for Life”, *Journal of Astrobiology* (2018). [arXiv:1804.02271]
600. Munoz, J. B., Dvorkin, C., & Loeb, A. “21-cm Fluctuations from Charged Dark Matter”, *Phys. Rev. Lett.* (2018). [arXiv:1804.01092]

599. Lingam, M., & Loeb, A. “Optimal Target Stars in the Search for Life”, *ApJ* (2018). [arXiv:1803.07570]
598. Christian, P., Mocz, P., & Loeb, A. “Evolution of the Black Hole Mass Function in Star Clusters from Multiple Mergers”, *ApJ* (2018). [arXiv:1803.07094]
597. Munoz, J. B., & Loeb, A. “Insights on Dark Matter from Hydrogen during Cosmic Dawn”, accepted for publication (2018). [arXiv:1802.10094]
596. Loeb, A. “Rejuvenating the Contract of Academia with Society”, *Scientific American, Observations* (Feb 14, 2018). [arXiv:1802.05289]
595. Christian, P., Vitale, S., & Loeb, A. “Detecting Stellar Lensing of Gravitational Waves with Ground-Based Observatories”, *Phys. Rev. Lett.* (2018). [arXiv:1802.02586]
594. Hoang, T., Loeb, A., Lazarian, A., & Cho, J. “Spinup and Disruption of Interstellar Asteroids by Mechanical Torques, and Implications for 1I/2017 U1 (‘Oumuamua)”, *ApJ* (2018). [arXiv:1802.01335]
593. Lingam, M., & Loeb, A. “Implications of Captured Interstellar Objects for Panspermia and Extraterrestrial Life”, *ApJ* (2018). [arXiv:1801.10254]
592. Loeb, A. “Are Alien Civilizations Technologically Advanced?”, *Scientific American, Observations* (January 2018). [arXiv:1801.06180]
591. Lingam, M., Dong, C, Fang, X., Jakosky, B. M., & Loeb, A. “The Propitious Role of Solar Energetic Particles in the Origin of Life”, *ApJ*, 853, 10 (2018). [arXiv:1801.05781]
590. Imara, N., Loeb, A., Johnson, B.D., Conroy, C., & Behroozi, P.” A Model Connecting Galaxy Masses, Star Formation Rates, and Dust Temperatures Across Cosmic Time”, *ApJ* (2018). [arXiv:1801.01499]
589. Ben-Ami, S., Vikhlinin, A., & Loeb, A. “SMBH Seeds: Model Discrimination with High Energy Emission Based on Scaling Relation Evolution”, *ApJ* (2017). [arXiv:1712.03207]
588. D’Orazio, D., & Loeb, A. “Imaging Massive Black Hole Binaries with Millimeter Interferometry: measuring black hole masses and the Hubble constant”, *ApJ* (2017). [arXiv:1712.02362]

587. Lingam, M., & Loeb, A. “Subsurface Exolife”, *Int. J. Astrobiology* (2017). [arXiv:1711.09908]
586. Hallakoun, N. et al. (with Loeb, A.) “Periodic optical variability and debris accretion in white dwarfs: a test for a causal connection”, *MNRAS* (2017). [arXiv:1711.10488]
585. Chen, H., Forbes, J. C., & Loeb, A. “Influence of XUV Irradiation from Sgr A* on Planetary Habitability and Occurrence of Panspermia near the Galactic Center”, *ApJ* (2017). [arXiv:1711.06692]
584. Hartwig, T., Bromm, V., & Loeb, A. “Survey strategies for the first supernovae with JWST”, *MNRAS* (2017). [arXiv:1711.05742]
583. Fialkov, A., Loeb, A., & Lorimer, D. “Enhanced Rates of Fast Radio Bursts from Galaxy Clusters”, *ApJ* (2017). [arXiv:1711.04396]
582. Lingam, M., & Loeb, A. “Is Life Most Likely Around Sun-like Stars?”, *MNRAS* (2017). [arXiv:1710.11134]
581. Lingam, M., & Loeb, A. “Impact and Mitigation Strategy for Future Solar Flares”, *ApJL* (2017). [arXiv:1709.05348]
580. Munoz, J. B., & Loeb, A. “Constraints on Dark-Matter-Baryon Scattering from the Temperature Evolution of the Intergalactic Medium”, *Phys. Rev. D* (2017). [arXiv:1708.08923]
579. Li, G., Ginsburg, I., Naoz, S., & Loeb, A. “Eclipsing Stellar Binaries in the Galactic Center”, *ApJL* (2017). [arXiv:1708.08466]
578. Koushiappas, S. M., & Loeb, A. “Maximum Redshift of Gravitational Wave Merger Events”, *Phys. Rev. Lett.* (2017). [arXiv:1708.07380]
577. Lingam, M., & Loeb, A. “Risks for Life on Habitable Planets from Superflares of their Host Stars”, *Phys. Rev.* (2017). [arXiv:1708.04241]
576. Lingam, M., & Loeb, A. “Reduced Diversity of Life Around Proxima Centauri and TRAPPIST-1”, *ApJL* (2017). [arXiv:1707.07007]
575. Lingam, M., & Loeb, A. “Implications of Tides for Life on Exoplanets”, *Astrobiology* (2017). [arXiv:1707.04594]

574. Sloan, D., Batista, R., & Loeb, A. “The Resilience of Life to Astrophysical Events”, *Nature Scientific Reports* (2017). [arXiv:1707.04253]
573. Lingam, M., & Loeb, A. “Physical Constraints on the Likelihood of Life on Exoplanets”, *Int. J. of Astrobiology* (2017). [arXiv:1707.02996]
572. Pacucci, F., Loeb, A., & Salvadori, S. “Gravitational Wave Sources from Pop III Stars are Preferentially Located within the Cores of their Host Galaxies”, *MNRAS Letters* (2017). [arXiv:1706.09892]
571. Hoang, T., & Loeb, A. “Electromagnetic Forces on a Relativistic Spacecraft in the Interstellar Medium”, *ApJL* (2017). [arXiv:1706.07798]
570. Fialkov, A., & Loeb, A. “A Fast Radio Burst Occurs Every Second throughout the Observable Universe”, *ApJL* (2017). [arXiv: 1706.06582]
569. Burkhart, B., & Loeb, A. “The Detectability of Radio Auroral Emission from Proxima B”, *ApJL* (2017). [arXiv:1706.07038]
568. Loeb, A. “The Case for Cosmic Modesty”, *Scientific American* (2017). [arXiv:1706.05959]
567. D’Orazio, D. J., & Loeb, A. “A Single Progenitor Model for GW150914 and GW170104”, *Phys. Rev. D.* (2017). [arXiv:1706.04211]
566. Wang, X., & Loeb, A. “Formation of Hypervelocity Stars in AGN Outflows”, *ApJL* (2017). [arXiv:1706.04201]
565. Forbes, J. C., & Loeb, A. “Evaporation of Planetary Atmospheres due to XUV Illumination by Quasars”, *MNRAS* (2017). [arXiv:1705.06741]
564. Chesler, P. M., & Loeb, A. “Constraining Modified Newtonian Dynamics with Gravitational Waves”, *Phys. Rev. Lett.* (2017). [arXiv:1704.05116]
563. Medvedev, M. V., & Loeb, A. “Plasma Constraints on the Cosmological Abundance of Magnetic Monopoles and the Origin of Cosmic Magnetic Fields”, *JCAP* (2017). [arXiv:1704.05094]
562. Mashian, N., & Loeb, A. “Hunting Black Holes with GAIA”, *MNRAS* (2017). [arXiv:1704.03455]

561. Koushiappas, S. M., & Loeb, A. “Dynamics of Dwarf Galaxies Disfavor Stellar-Mass Black Holes as Dark Matter”, *Phys. Rev. Lett.* (2017). [arXiv:1704.01668]
560. Burns, J.O., et al. (with A. Loeb) “A Space-Based Observational Strategy for Characterizing the First Stars and Galaxies Using the Redshifted 21-cm Global Spectrum”, *ApJ* (2017). [arXiv: 1704.02651]
559. Smith, A., Bromm, V., & Loeb, A. “How Did the First Supermassive Black Holes Form?”, invited review for *Astronomy & Geophysics* (2017). [arXiv:1703.03083]
558. Dierickx, M., & Loeb, A. “Upper Limit on the Milky Way Mass from the Orbit of the Sagittarius Dwarf Satellite”, *ApJ* (2017). [arXiv:1703.02137]
557. Lingam, M., & Loeb, A. “Enhanced Interplanetary Panspermia in the TRAPPIST-1 System”, *PNAS* (2017). [arXiv:1703.00878]
556. Lingam, M., & Loeb, A. “Natural and Artificial Spectral Edges in Exoplanets”, *ApJL* (2017). [arXiv:1702.05500]
555. Kiziltan, B., Baumgardt, H., & Loeb, A. “An Intermediate-Mass Black Hole in the Centre of the Globular Cluster 47 Tucanae”, *Nature* **542**, 203 (2017). [arXiv:1702.02149]
554. Kapinska, A. D., et al. (with Loeb, A.) “Spectral Energy Distribution and Radio Halo of NGC 253 at Low Radio Frequencies”, *ApJ* (2017). [arXiv:1702.02434]
553. Loeb, A., & Imara, N. “Astrophysical Russian Dolls”, *Nature Astronomy* **1**, 6 (2017). [arXiv:1701.03664]
552. Christian, P., & Loeb, A. “eLISA Detection of Black Hole Binaries in the Milky Way Galaxy”, *MNRAS* (2017). [arXiv:1701.01736]
551. Maoz, D., & Loeb, A. “Searching for giga-Jansky Fast Radio Bursts from the Milky Way with a Global Array of Low-Cost Radio Receivers”, *MNRAS* (2017). [arXiv:1701.01475]
550. Lingam, M., & Loeb, A. “Fast Radio Bursts from Extragalactic Light Sails“, *ApJL* (2017). [arXiv:1701.01109]

549. Ijjas, A., Steinhardt, P., & Loeb, A. “Pop Goes the Universe”, *Scientific American* **316**, 32 (2017).
548. Wang, X., & Loeb, A. “Ultra High Energy Cosmic-Rays from Non-Relativistic Quasar Outflows”, *Phys. Rev. Lett.* (2016). [arXiv:1611.07616]
547. Fialkov, A., & Loeb, A. “Jetted Tidal Disruptions of Stars as a Flag of Intermediate Mass Black Holes at High Redshifts”, *MNRAS*, (2016). [arXiv:1611.01386]
546. Dierickx, M., & Loeb, A. “Predicted Extension of the Sagittarius Stream to the Milky Way Virial Radius”, *ApJ* (2016). [arXiv:1611.00089]
545. Manchester, Z., & Loeb, A. “Stability of a Light Sail Riding on a Laser Beam”, *Phys. Rev. X* (2016). [arXiv:1609.09506]
544. Michaeli, E., & Loeb, A. “Shaping of the Inner Oort Cloud by Planet Nine”, *MNRAS* (2016). [arXiv:1609.08614]
543. Paul, S., et al. (with Loeb, A.) “Delay Spectrum with Phase-Tracking Arrays: Extracting the HI power spectrum from the Epoch of Reionization”, *ApJ* (2016). [arXiv:1610.07003]
542. Christian, P., & Loeb, A. “Interferometric Measurement of Acceleration at Relativistic Speeds”, *Phys. Rev. Lett.* (2016). [arXiv:1608.08230]
541. Kreidberg, L., & Loeb, A. “Prospects for Characterizing the Atmosphere of Proxima Centauri b”, *ApJL* (2016). [arXiv: 1608.07345]
540. Rane, A., & Loeb, A. “A Novel Approach for Identifying Host Galaxies of Nearby FRBs”, *MNRAS* (2016). [arXiv:1608.06952]
539. Beardsley, A. P., et al. (with A. Loeb) “First Season MWA EoR Power Spectrum Results at Redshift 7”, *ApJ* (2016). [arXiv:1608.06281]
538. Hoang, T., Lazarian, A., Burkhart, B., & Loeb, A. “The Interaction of Relativistic Spacecrafts with the Interstellar Medium”, *ApJ* (2016). [arXiv:1608.05284]
537. Johannsen, T., Wang, C., Broderick, A. E., Doeleman, S., Fish, V., Loeb, A., & Psaltis, D. “Testing General Relativity with Accretion-Flow Imaging of SgrA*”, *Phys. Rev. Lett.* (2016). [arXiv: 1608.03593]

536. Loeb, A. “Lessons from Mayan Astronomy”, *Nature*, to be published (2016). [arXiv:1608.01731]
535. Fragione, G., & Loeb, A. “Constraining Milky Way Mass with Hypervelocity Stars”, *MNRAS* (2016). [arXiv:1608.01517]
534. Smith, A., Bromm, V., & Loeb, A. “Lyman-alpha Radiation Hydrodynamics of Galactic Winds Before Cosmic Reionization”, *MNRAS*, (2016). [arXiv:1607.07166]
533. Wang, X., & Loeb, A. “Quasar Driven Outflows Account for the Missing Extragalactic Gamma-Ray Background”, *Nature Physics* (2016). [arXiv:1607.06472]
532. Wang, X., & Loeb, A. “Cumulative Neutrino Background from Quasar-Driven Outflows”, *Phys. Rev. Lett.* (2016). [arXiv:1607.06476]
531. Loeb, A. “On the Habitability of our Universe”, chapter for the book “Consolidation of Fine Tuning”, 51 pages, Oxford University Press (2016). [arXiv:1606.08926]
530. Loeb, A., Batista, R., & Sloan, D. “Relative Likelihood for Life as a Function of Cosmic Time”, *JCAP* (2016). [arXiv:1606.08448]
529. Lenc, E. et al. (with A. Loeb) “Low Frequency Observations of Linearly Polarized Structure in the Interstellar Medium Near the South Galactic Pole”, *ApJ* (2016). [arXiv:1607.05779]
528. Carroll, P. A., et al. (with A. Loeb) “A High Reliability Survey of Discrete Epoch of Reionization Foreground Sources in the MWA EoR0 Field”, *MNRAS* (2016). [arXiv:1607.03861]
527. Jacobs, D. C., et al. (with A. Loeb) “The Murchison Widefield Array 21 cm Power Spectrum Analysis Methodology”, *ApJ* (2016). [arXiv:1605.06978]
526. Ewall-Wice, A., et al. (with A. Loeb) “First Limits on the 21-cm Power Spectrum During the Epoch of X-ray Heating”, *MNRAS*, in press (2016). [arXiv:1605.00016]
525. Meiron, Y., Kocsis, B., & Loeb, A. “Detecting Triple Systems with Gravitational Wave Observations”, *ApJ* (2016). [arXiv: 1604.02148]

524. Burkhart, B., & Loeb, A. “Predicted Sizes of Pressure-Supported HI Clouds in the Outskirts of the Virgo Cluster”, *ApJ* (2016). [arXiv:1604.01767]
523. Imara, N., & Loeb, A. “The Distortion of the Cosmic Microwave Background Spectrum Due to Intergalactic Dust”, *ApJ* (2016). [arXiv:1604.00005]
522. Jiang, Y., Guillochon, J., & Loeb, A. “Prompt Radiation and Mass Outflows from the Stream-Stream Collisions of Tidal Disruption Events”, *ApJ* (2016). [arXiv:1603.07733]
521. Mashian, N., & Loeb, A. “CEMP Stars: Possible Hosts to Carbon Planets in the Early Universe”, *MNRAS* (2016). [arXiv:1603.06943]
520. Ginzburg, S., Sari, R., & Loeb, A. “Blackbody Radiation from Isolated Neptunes”, *ApJ* (2016). [arXiv:1603.02876]
519. Amorisco, N. C., & Loeb, A. “Ultra-Diffuse Galaxies: the High-Spin Tail of the Abundant Dwarf Galaxy Population”, *MNRAS*, (2016). [arXiv:1603.00463]
518. Fialkov, A., & Loeb, A. “Constraining the CMB Optical Depth Through the Dispersion Measure of Cosmological Radio Transients”, *JCAP* (2016). [arXiv:1602.08130]
517. Smith, A., Bromm, V., & Loeb, A. “Evidence for a Direct Collapse Black Hole in the Lyman-alpha Source CR7”, *MNRAS*, (2016). [arXiv:1602.07639]
516. Loeb, A. “Electromagnetic Counterparts to Black Hole Mergers Detected by LIGO”, *ApJL*, 819, L21 (2016). [arXiv:1602.04735]
515. Fish, V. et al. (with A. Loeb) “Persistent Asymmetric Structure of Sagittarius A* on Event Horizon Scales”, *ApJ* (2016). [arXiv: 1602.05527]
514. Offringa, A. R., et al. (with A. Loeb) “Parametrising the Epoch of Reionization Foregrounds: A Deep Survey of Low-Frequency Point-Source Spectra with the MWA”, *MNRAS* (2016). [arXiv: 1602.02247]
513. Soumagnac, M. T., et al. (with A. Loeb) “Large Scale Distribution of Total Mass Versus Luminous Matter from Baryon Acoustic Oscillations: First Search in the SDSS-III BOSS Data Release 10”, *Phys. Rev. Lett.* (2016). [arXiv:1602.01839]

512. Dijkstra, M., Sethi, S., & Loeb, A. “3-cm Fine Structure Masers: A Unique Signature of Supermassive Black Hole Formation via Direct Collapse in the Early Universe”, *ApJ* (2016). [arXiv:1601.04712]
511. Pober J. C., et al. (with Loeb A.) “The Importance of Wide-Field Foreground Removal for 21 cm Cosmology: A Demonstration with Early MWA Epoch of Reionization Observations”, *ApJ* (2016). [arXiv:1601.06177]
510. Fialkov, A., & Loeb, A. “Precise Measurement of the Reionization Optical Depth from the Global 21-cm Signal Accounting for Cosmic Heating”, *ApJ* (2016). [arXiv:1601.03058]
509. Mashian, N., Loeb, A., & Sternberg, A. “Spectral Distortion of the CMB by the Cumulative CO Emission from Galaxies Throughout Cosmic History”, *MNRAS* (2016). [arXiv:1601.02618]
508. Trott, K.M., et al. (with A. Loeb), “CHIPS: The Cosmological HI Power Spectrum Estimator”, *ApJ* (2016). [arXiv:1601.02073]
507. Yamazaki, R., Hayasaki, K., & Loeb, A. “Optical-Infrared Flares and Radio Afterglows from the Tidal Disruption of Jovian Planets by their Host Star”, *MNRAS* (2015). [arXiv:1512.01747]
506. Johnson, M., et al. (with Loeb, A.) “Resolved Magnetic Field Structure and Variability Near the Event Horizon of Sagittarius A*”, *Science* (2015). [arXiv:1512.01220]
505. Margalit, B., & Loeb, A. “Inferring the Distances of Fast Radio Bursts Through 21-cm Absorption”, *MNRAS* (2015). [arXiv:1511.03615]
504. Imara, N., & Loeb, A. “Limits on Intergalactic Dust During Reionization”, *ApJL* (2015). [arXiv:1510.07047]
503. Ray, A., & Loeb, A. “Inferring the Composition of Super-Jupiter Mass Companions of Pulsars with Radio Line Spectroscopy” (2015). [arXiv:1510.06418]
502. Wang, X., & Loeb, A. “Quasar-Driven Outflows Account for the Missing Extragalactic γ -ray Background” (2015).
501. Hayasaki, K., & Loeb, A. “Detection of Gravitational Waves Emission by Supermassive Black Hole Binaries Through Tidal Disruption Flares” (2015). [arXiv:1510.05760]

500. Patej, A., & Loeb, A. “Detectability of Local Group Dwarf Galaxy Analogues at High Redshifts” to ApJL (2015). [arXiv:1510.02101]
499. Piovetti, B., & Loeb, A. “Quantum Coherent Oscillations in the Early Universe”, Phys. Rev. Lett. (2015). [arXiv:1509.08895]
498. Patej, A., & Loeb, A. “Density Jumps Near the Virial Radius of Galaxy Clusters”, ApJ (2015). [arXiv:1509.07506]
497. Christian, P., & Loeb, A. “Mapping the Dynamics of Cold Gas Around SgrA* Through 21cm Absorption”, ApJL (2015). [arXiv: 1509.06790]
496. Ginsburg, I., Wang, X., Loeb, A., & Cohen, O. “Detecting Stars at the Galactic Centre via Synchrotron Emission”, MNRAS (2015). [arXiv:1509.06251]
495. Guillochon, J., & Loeb, A. “SETI via Leakage from Light Sails in Exoplanetary Systems”, ApJL (2015). [arXiv:1508.03043]
494. Kulkarni, G., & Loeb, A. “Radio Crickets: Chirping Jets from Black Hole Binaries Entering their Gravitational Wave Inspiral”, MNRAS (2015). [arXiv:1507.06990]
493. Hallakoun, N, et al. “SDSS J1152+0248: An Eclipsing Double White-Dwarf from the Kepler K2 Campaign”, MNRAS (2015). [arXiv:1507.0631]
492. Lin, H. W., & Loeb, A. “Statistical Signatures of Panspermia in Exoplanet Surveys”, ApJL (2015). [arXiv:1507.05614]
491. Mashian, N., Sternberg, A., & Loeb, A. “Predicting the Intensity Mapping Signal for multi- J CO Lines”, JCAP (2015). [arXiv: 1507.02686]
490. Loeb, A. “The Infinity Pool”, Nature (2015). [arXiv: 1507.02524]
489. Maoz, D., Loeb, A., Shvartzvald, Y., Sitek, M., Engel, M., Kiefer, F., Kiraga, M., Levi, A., Mazeh, T., Pawlak, M., Rich, R. M., & Wyrzykowski, L. “Fast Radio Bursts: the Observational Case for a Galactic Origin”, MNRAS (2015). [arXiv:1507.01002]
488. Mashian, N., Oesch, P., & Loeb, A. “An Empirical Model for the Galaxy Luminosity and Star-Formation Rate Function at High Redshift”, MNRAS (2015). [arXiv:1507.00999]

487. Yamazaki, R., & Loeb, A. “Optical Inverse Compton Emission from Clusters of Galaxies”, *MNRAS* (2015). [arXiv:1506.07414]
486. Thyagarajan, N., et al. (with Loeb, A.) “Confirmation of Wide-Field Signatures in Redshifted 21 cm Power Spectra”, *ApJL*, in press (2015). [arXiv:1506150]
485. Lin, H. W., & Loeb, A. “Scaling Relations of Halo Cores for Self-Interacting Dark Matter”, *Phys. Rev. Lett.* (2015). [arXiv: 1506.05471]
484. Wang, X., & Loeb, A. “Probing the Gaseous Halo of Galaxies through Non-Thermal Emission from AGN-Driven Outflows”, *MNRAS*, (2015). [arXiv:1506.05470]
483. Johnson, M., Loeb, A., Shiokawa, H., Chael, A., & Doeleman, S. “Measuring the Direction and Angular Velocity of a Black Hole Accretion Disk via Lagged Interferometric Covariance”, *ApJ*, (2015). [arXiv:1505.07870]
482. Dillon, J. S., et al. “Empirical Covariance Modeling for 21 cm Power Spectrum Estimation: A Method Demonstration and New Limits from Early MWA 128-Tile Data”, *Phys. Rev. D.* (2015). [arXiv:1506.01026]
481. Bussmann, R. S., et al. “Hermes: ALMA Imaging of HERSCHEL-Selected Dusty Star-Forming Galaxies”, *ApJ* (2015). [arXiv: 1504.05256]
480. Bialy, S., Sternberg, A., & Loeb, A. “Water Formation in the Early Universe”, *ApJ Letters*, **804**, L29 (2015). [arXiv:1503.03475]
479. Thyagarajan, N., et al. (with Loeb, A.) “Foregrounds in Wide-Field Redshifted 21 cm Power Spectra”, *ApJ* (2015). [arXiv: 1502.07596]
478. Christian, P., & Loeb, A. “Probing the Spacetime Around Supermassive Black Holes with Ejected Plasma Blobs”, *MNRAS*, (2015). [arXiv:1502.07365]
477. Li, G., Naoz, S., Kocsis, B., & Loeb, A. “Implications of the Eccentric Kozai-Lidov Mechanism for Stars Surrounding Supermassive Black Hole Binaries”, *MNRAS* (2015). [arXiv: 1502.03825]
476. Fialkov, A., & Loeb, A. “Distortion of the Luminosity Function of High-Redshift Galaxies by Gravitational Lensing”, *ApJ* (2015). [arXiv:1502.03141]

475. Loeb, A. “How to Collect Matches That Will Catch Fire”, *Nature* (2015). [arXiv:1502.00709]
474. Hayasaki, K., Stone, N. C., & Loeb, A. ”Circularization of Tidally Disrupted Stars Around Spinning Supermassive Black Holes”, *MNRAS* (2015). [arXiv:1501.05207]
473. Offringa, A. R. et al. “The Low-Frequency Environment of the Murchison Widefield Array: Low Frequency Interference Analysis and Mitigation”, *PASA* (2015). [arXiv:1501.03946]
472. Loeb, A., & Maoz, D. “Using Atomic Clocks to Detect Gravitational Waves”, *Phys. Rev. D* (2015). [arXiv:1501.00996]
471. Lin, H. W., & Loeb, A. “A Unifying Theory for Scaling Laws of Human Populations”, *Nature* , (2015). [arXiv:1501.00738]
470. Novak, M., et al. “New Insights from Deep VLA Data on the Potentially Recoiling Black Hole CID-42 in the COSMOS Field”, *MNRAS* (2014). [arXiv:1412.0004]
469. Loeb, A., & Guillochon, J. “Observational Cosmology with Semi-Relativistic Stars”, *Phys. Rev. Lett.* (2014). [arXiv:1411.5030]
468. Guillochon, J., & Loeb, A. “The Fastest Unbound Stars in the Universe”, *ApJ* (2014). [arXiv:1411.5022]
467. Patej, A., & Loeb, A. “A Simple Physical Model for the Gas Distribution in Galaxy Clusters”, *ApJ* (2014). [arXiv:1411.2971]
466. Psaltis, D., Narayan, R., Fish, V., Broderick, A., Loeb, A., & Doeleman, S. “Event-Horizon-Telescope Evidence for Alignment of the Black Hole in the Center of the Milky Way with the Inner Stellar Disk”, *ApJ* (2014). [arXiv:1409.5447]
465. Barnacka, A., & Loeb, A. “A Size-Duration Trend for Gamma-Ray Burst Progenitors”, *ApJL* (2014). [arXiv:1409.1232]
464. Lin, H., & Loeb, A. “Finding Rocky Asteroids Around White Dwarfs by Their Periodic Thermal Emission”, *ApJL* (2014). [arXiv:1408.2832]

463. Lin, H. W., Gonzales-Abad, G., & Loeb, A. “Detecting Industrial Pollution in the Atmospheres of Earth-like Planets”, *ApJL*, (2014). [arXiv:1406.3025]
462. Tremaine, S., Shen, Y., Liu, X., & Loeb, A. “Relativistic Redshifts in Quasar Broad Lines” *ApJ* (2014). [arXiv:1406.2468]
461. Dierickx, M., Blecha, L., & Loeb, A. “Signatures of the M31-M32 Galactic Collision”, *ApJL* (2014). [arXiv:1405.3990]
460. Loeb, A. “On the Benefits of Promoting Diversity of Ideas”, *Nature Physics* (2014). [arXiv:1405.2954]
459. Li, G., Naoz, S., Holman, M., & Loeb, A. “Chaos in the Test Particle Eccentric Kozai-Lidov Mechanism”, *ApJ* (2014). [arXiv:1405.0494]
458. Stone, N., Metzger, B., & Loeb, A. “Evaporation and Accretion of Extrasolar Comets Following White Dwarf Kicks”, *MNRAS* (2014). [arXiv:1404.3213]
457. Christian, P., & Loeb, A. “Timing Constraints on the Position and Velocity Vectors of Pulsars at the Galactic Centre”, *MNRAS*, (2014). [arXiv:1404.1928]
456. Mastrobuono-Battisti, A., Perets, H. B., & Loeb, A. “Effects of Intermediate Mass Black Holes on Nuclear Star Clusters”, *ApJ*, (2014). [arXiv:1403.3094]
455. Ijjas, A., Steinhardt, P., & Loeb, A. “Inflationary Schism After Planck2013” (2014). [arXiv:1402.6980]
454. Wang, X., & Loeb, A. “Detecting Floating Black Holes as They Traverse the Gas Disk of the Milky Way”, *MNRAS* (2014). [arXiv:1402.5975]
453. Pani, P. & Loeb, A. “Exclusion of the Remaining Mass Window for Primordial Black Holes as the Dominant Constituent of Dark Matter”, *Phys. Rev. Lett.* (2014). [arXiv:1401.3025]
452. Guillochon, J., Loeb, A., MacLeod, M., & Ramirez-Ruiz, E. “Possible Origin of the G2 Cloud from the Tidal Disruption of a Known Giant Star by SgrA*”, *ApJL* (2014). [arXiv:1401.2990]

451. Walker, M. G., & Loeb, A. “Is the Universe Simpler than LCDM?”, *Contemporary Physics* (2014). [arXiv:1401.1146]
450. Liu, X., Shen, Y., Bian F., Loeb, A., Tremaine, S. “Constraining Sub-Parsec Binary Supermassive Black Holes in Quasars with Multi-Epoch Spectroscopy. II. The Population with Kinematically Offset Broad Balmer Emission Lines”, *ApJ* (2013). [arXiv:1312.6694]
449. Loeb, A. “The Habitable Epoch of the Early Universe”, *Astrobiology* (2013). [arXiv:1312.0613]
448. Stacy, A., Pawlik, A. H., Bromm, V., & Loeb, A. “The Mutual Interaction Between Population III Stars and Self-Annihilating Dark Matter”, *MNRAS* (2013). [arXiv:1312.3117]
447. Rubin, D., & Loeb, A., “The Virialization Density of Peaks with General Density Profiles Under Spherical Collapse”, *JCAP*, in press (2013). [arXiv:1311.5594]
446. Broderick, A., Johannsen, T., Loeb, A., & Psaltis, D., “Testing the No-Hair Theorem with Event Horizon Telescope Observations of SgrA*”, *ApJ* (2013). [arXiv:1311.5564]
445. Rubin, D., & Loeb, A. “The Kinetic Sunyaev-Zeldovich Effect from the Diffuse Gas in the Local Group”, *JCAP* (2013). [arXiv:1311.5255]
444. Loeb, A. “Spurious Velocities in Dynamically-Cold Systems Due to the Gravitational Redshift of Their Constituent Stars”, *Phys. Rev. D* (2013). [arXiv:1311.4551]
443. Fialkov, A., & Loeb, A., “The 21cm Signal from the Cosmological Epoch of Recombination”, *JCAP* (2013). [arXiv:1311.4574]
442. Katz, B., Waxman, E., Thompson, T., & Loeb, A. “The Energy Production Rate Density of Cosmic Rays in the Local Universe is $\sim 10^{44-45}$ erg Mpc $^{-3}$ yr $^{-1}$ at All Particle Energies”, preprint (2013). [arXiv:1311.0287]
441. Li, G., Naoz, S., Kocsis, B., & Loeb, A. “Counter-Orbiting Planets Were Flipped Over by a Coplanar Outer Object”, *Nature Comm.*, (2013). [arXiv:1310.6044]

440. Loeb, A., Shvartzvald, Y., & Maoz, D. “Fast Radio Bursts May Originate from Nearby Flaring Stars”, MNRAS (2013). [arXiv:1310.2419]
439. Kocsis, B., & Loeb, A. “Menus for Feeding Black Holes”, Space Science Reviews (2013). [arXiv:1310.0815]
438. La Plante, P., Bataglia, N., Natarajan, A., Peterson, J. B., Trac, H., Cen, R., & Loeb, A. “Reionization on Large Scales IV: Predictions for the 21cm Signal Incorporating the Light Cone Effect”, ApJ (2013). [arXiv:1309.7056]
437. Ijjas, A., Steinhardt, P. J., & Loeb, A. “Scale-Free Primordial Cosmology”, Phys. Rev. D (2013). [arXiv:1309.4480]
436. Kilic, M., Agol, E., Loeb, A., Maoz, D., et al. “Habitable Planets Around White Dwarf”, Kepler White Paper (2013). [arXiv:1309.0009]
435. Rule, E., Loeb, A., & Streinitski V. “High- n Hydrogen Recombination Lines from the First Galaxies”, ApJL (2013). [arXiv:1308.6215]
434. Wyithe, S. , Loeb, A., & Oesch, P. “A Predicted New Population of UV-Faint Galaxies at $z > 4$ ”, MNRAS (2013). [arXiv:1308.2030]
433. Pani, P. & Loeb, A. “Constraining Primordial Black Hole Bombs Through Spectral Distortions of the Cosmic Microwave Background”, Phys. Rev. D (2013). [arXiv:1307.5176]
432. Shen, Y., Liu, X., Loeb, A., & Tremaine, S. “Constraining sub-Parsec Binary Supermassive Black Holes in Quasars with Multi-Epoch Spectroscopy. I. The General Quasar Population”, ApJ (2013). [arXiv:1306.4330]
431. Mashian, N., & Loeb, A. “Constraining the Minimum Luminosity of High Redshift Galaxies through Gravitational Lensing”, MNRAS, (2013). [arXiv:1305.6924]
430. Christian, P., & Loeb, A. “Measuring the X-ray Background in the Reionization Era with First Generation 21 cm Experiments”, MNRAS, (2013). [arXiv:1305.5541]
429. Loeb, A. “On the Importance of Conceptual Thinking Outside the Simulation Box”, accepted for publication in Nature Physics (2013). [arXiv:1305.5495]

428. Balberg, S., Sari, R., & Loeb, A. “A New Rare Type of Supernovae: Hypervelocity Stellar Collisions at Galactic Centers”, *MNRAS* (2013). [arXiv:1304.7969]
427. Ijjas, A., Steinhardt, P. J., & Loeb, A. “Inflationary paradigm in Trouble After Planck2013”, *Phys. Lett.* (2013). [arXiv:1304.2785]
426. Pan, T., & Loeb, A. “Finding Core Collapse Supernova from the Epoch of Reionization Behind Cluster Lenses”, *MNRAS* (2013). [arXiv:1303.6960]
425. Pan, T., Patnaude, D. J., & Loeb, A. “Super-luminous X-ray Emission from the Interaction of Supernova Ejecta with Dense Circumstellar Shells”, *MNRAS* (2013). [arXiv:1303.6958]
424. Mashian, N., Sternberg, A., & Loeb, A. “The Ratio of CO to Total Gas Mass in High Redshift Galaxies”, *MNRAS* (2013). [arXiv:1302.6998]
423. Loeb, A., & Maoz, D. “Detecting Bio-Markers in Habitable-Zone Earths Transiting White Dwarfs”, *MNRAS* (2013). [arXiv:1301.4994]
422. Psaltis, D., Li, G., & Loeb, A. “Deviation of Stellar Orbits from Test Particle Trajectories Around Sgr A* Due to Tides and Winds”, *ApJ* (2012). [arXiv:1212.3342]
421. Medvedev, M. V., & Loeb, A. “Dynamics of Astrophysical Bubbles and Bubble-Driven Shocks: Basic Theory, Analytical Solutions and Observational Signatures”, *ApJ* (2012). [arXiv:1212.0330]
420. Medvedev, M. V., & Loeb, A. “On Poynting-Flux-Driven Bubbles and Shocks Around Merging Neutron Star Binaries”, *MNRAS* (2012). [arXiv:1212.0333]
419. Liu, D., Pe’er, A., & Loeb, A. “A two-component jet model for the tidal disruption event Swift J164449.3+573451”, *ApJ* (2012). [arXiv:1211.5120]
418. Liu, A., Pritchard, J., Tegmark, M., & Loeb, A. “Global 21cm Signal Experiments: a Designer’s Guide”, *Phys. Rev. D* (2012). [arXiv:1211.3743]
417. Battaglia, N., Natarajan, A., Trac, H., Cen, R., & Loeb, A. “Reionization on Large Scales III: Predictions for Low- ℓ Cosmic Microwave Background Polarization and High- ℓ Kinetic Sunyaev-Zel’dovich Observables”, *ApJ* (2012). [arXiv:1211.2832]

416. Natarajan, A., Battaglia, N., Trac, H., Pen, U.-L., & Loeb, A. “Reionization on Large Scales II: Detecting Patchy Reionization through Cross Correlation of the Cosmic Microwave Background”, *ApJ*, (2012). [arXiv:1211.2822]
415. Battaglia, N., Trac, H., Cen, R., & Loeb, A. “Reionization on Large Scales I: A Parametric Model Constructed from Radiation-Hydrodynamic Simulations”, *ApJ* (2012). [arXiv:1211.2821]
414. Stone, N., Sari, R., & Loeb, A. “Consequences of Strong Compression in Tidal Disruption Events”, *MNRAS* (2012). [arXiv:1210.3374]
413. Doeleman, S. S. et al. “Jet Launching Structure Resolved Near the Supermassive Black Hole in M87”, *Science* **338**, 355 (2012). [arXiv:1210.6132]
412. Keshet, U., Kushnir, D., Loeb, A., & Waxman, U. “Detection of a Virial Shock Around the Coma Galaxy Cluster”, *Nature* (2012). [arXiv:1210.1574]
411. Hayasaki, K., Stone, N., & Loeb, A. “Finite, Intense Accretion Bursts from Tidal Disruption of Stars on Bound Orbits”, *MNRAS*, (2012). [arXiv:1210.1333]
410. Hayasaki, K., Stone, N., & Loeb, A. “Tidal Disruption Flares from Stars on Eccentric Orbits” (2012). [arXiv:1210.1050]
409. Stone, N., Loeb, A., & Berger, E. “Pulsations in Short GRBs from Black Hole-Neutron Star Mergers”, *Phys. Rev. D* (2012). [arXiv:1209.4097]
408. Ferrara, A., & Loeb, A. “Escape Fraction of Ionizing Radiation from Starburst Galaxies at High Redshifts”, *MNRAS* (2012). [arXiv:1209.2123]
407. Wyithe, J.S.B., & Loeb, A. “A Suppressed Contribution of Low Mass Galaxies to Reionization due to Supernova Feedback”, *MNRAS*, (2012). [arXiv:1209.2215]
406. Li, G., & Loeb, A. “Accumulated Tidal Heating of Stars Over Multiple Pericenter Passages Near SgrA*”, *MNRAS* (2012). [arXiv:1209.1104]
405. Stacy, A., Greif, T. H., Klessen, R. S., Bromm, V., & Loeb, A. “Rotation and Internal Structure of Population III Protostars”, *MNRAS* (2012). [arXiv:1209.1439]

404. Behroozi, P. S., Loeb, A., & Wechsler, R. H. “Unbound Particles in Dark Matter Halos”, JCAP (2012). [arXiv:1208.0334]
403. Wang, F., Bromm, V., Greif, T., Stacy, A., Dai, Z., Loeb, A., & Cheng, K. “Probing Pre-galactic Metal Enrichment with High-Redshift Gamma-Ray Bursts”, ApJ (2012). [arXiv:1207.3879]
402. Loeb, A. “How to Nurture Scientific Discoveries Despite Their Unpredictable Nature”, Nature (2012). [arXiv:1207.3812]
401. Visbal, E., Loeb, A., & Hernquist, L. “A Simple Model for the Density Profiles of Isolated Dark Matter Halos”, ApJ (2012). [arXiv:1206.5852]
400. Pan, T., & Loeb, A. “Identifying Stars of Mass $> 150M_{\odot}$ from Their Eclipse by a Binary Companion”, MNRAS (2012). [arXiv: 1206.1050]
399. Naoz, S., Kocsis, B., Loeb, A., & Yunes, N. “Resonant Post-Newtonian Eccentricity Excitation in Hierarchical Three-body Systems”, ApJ (2012). [arXiv:1206.4316]
398. Kocsis, B., Haiman, Z., & Loeb, A. “The Gap Closes: a New Scenario for the Evolution of Supermassive Black Hole Binaries with Gaseous Disks”, MNRAS (2012). [arXiv:1205.5268]
397. Blecha, L., Civano, F., Elvis, M., & Loeb, A. “Constraints on the Nature of CID-42: Recoil Kick or Supermassive Black Hole Pair?”, MNRAS (2012). [arXiv:1205.6202]
396. Kocsis, B., Haiman, Z., & Loeb, A. “Gas Pile Up and Overflow in Circumbinary Accretion Disks: Type-I.5 Migration”, MNRAS, (2012). [arXiv:1205.4714]
395. Besla, G., Hernquist, L., & Loeb, A. “The Origin of the Microlensing Events Observed Towards the LMC and the Stellar Counterpart of the Magellanic Stream”, MNRAS (2012). [arXiv:1205.4724]
394. Loeb, A. “The Optimal Cosmic Epoch for Precision Cosmology”, JCAP (2012). [arXiv:1203.2622]
393. Civano, F., et al. “Chandra High Resolution Observations of CID-42, a Candidate Recoiling SMBH, ApJ (2012). [arXiv:1205.0815]

392. Loeb, A. “Rating Research Risk”, *Nature*, **484**, 279 (2012).
391. Li, G., Kocsis, B., & Loeb, A. “Gravitational Wave Heating of Stars and Accretion Disks”, *MNRAS* (2012). [arXiv:1203.0317]
390. Shlaer, B., Vilenkin, A., & Loeb, A. “Early Structure Formation from Cosmic String Loops”, *JCAP* (2012). [arXiv:1202.1346]
389. Vogelsberger, M., Zavala, J., & Loeb, A. “Subhaloes in Self-Interacting Galactic Dark Matter Haloes”, *MNRAS* (2012). [arXiv:1201.5892]
388. Blecha, L., Loeb, A., & Narayan, R. “Double-peaked Narrow-Line Signatures of Dual Supermassive Black Holes in Galaxy Merger Simulations”, *MNRAS* (2012). [arXiv:1201.1904]
387. Ginsburg, I., Loeb, A., & Wegner, G.A. “Hypervelocity Planets and Transits Around Hypervelocity Stars”, *MNRAS* (2012). [arXiv: 1201.1446]
386. Murray-Clay, R., & Loeb, A. “Disruption of a Proto-Planetary Disk by the Black Hole at the Milky Way Centre”, *Nature* (2011). [arXiv:1112.4822]
385. Pan, T., Kasen, D., & Loeb, A. “Pair-Instability Supernovae at the Epoch of Reionization”, *MNRAS* (2011). [arXiv:1112.2710]
384. Wyithe, S., & Loeb, A. “Photon Trapping Enables Super-Eddington Growth of Black-Hole Seeds in Galaxies at High Redshift”, *MNRAS* (2011). [arXiv:1111.5424]
383. Peér, A., & Loeb, A. “Constraining Sources of Ultra High Energy Cosmic Rays Using High Energy Observations with the Fermi Satellite”, *Phys. Rev. D* (2011). [arXiv:1111.3964]
382. Pan, T., Loeb, A., & Kasen, D. “Pair-Instability Supernovae via Collision Runaway in Young Dense Star Clusters”, *MNRAS* (2011). [arXiv:1111.3648]
381. Stacy, A., Pawlik, A., Bromm, V., & Loeb, A. “Effect of Population III Multiplicity on Dark Star Formation”, *MNRAS* (2011). [arXiv:1111.1527]
380. Loeb, A., & Turner, E. L., “Detection Technique for Artificially-Illuminated Objects in the Outer Solar System and Beyond”, *Astrobiology*, 12, 290 (2012). [arXiv:1110.6181]

379. Bittner, J., & Loeb, A., “The Imprint of the Relative Velocity Between Baryons and Dark Matter on the 21-cm Signal from Reionization”, *Phys. Rev. D* (2011). [arXiv:1110.4659]
378. Loeb, A., “The Reionization of Cosmic Hydrogen by the First Galaxies”, Chapter 3 in “Adventures in Cosmology”, edited by D. Goodstein, World Scientific (2012).
377. Li, N., Mao, S., Gao, L., Loeb, A., & Di Stefano, R., “Effects of Supermassive Binary Black Holes on Gravitational Lenses”, *MNRAS*, (2011). [arXiv:1110.0887]
376. Stone, N., & Loeb, A., “Observing Lense-Thirring Precession in Tidal Disruption Flares”, *Phys. Rev. Lett.* (2011). [arXiv:1109.6660]
375. Li, G., Conroy, C., & Loeb, A., “Empirical Constraints on the Coevolution of Supermassive Black Holes and their Host Spheroids”, *MNRAS* (2011). [arXiv:1110.0017]
374. Pritchard, J., & Loeb, A., “21-cm Cosmology”, *Rep. Prog. Phys.*, (2011). [arXiv:1109.6012]
373. Visbal, E., & Loeb, A., “Gauging the Contribution of X-ray Sources to Reionization Through the Kinetic Sunyaev-Zel’dovich Effect”, *JCAP* (2011). [arXiv:1109.5722]
372. Wyithe, S., Mould, J., & Loeb, A., “The Small Contribution to Hydrogen Reionization from Gravitational Infall”, *ApJL* (2011). [arXiv:1108.5809]
371. Dijkstra, M., Gilfanov, M., Loeb, A., & Sunyaev, R. “Constraints on the Redshift Evolution of the L_X -SFR Relation from the Cosmic X-Ray Backgrounds”, *MNRAS* (2011). [arXiv:1108.4420]
370. Loeb, A. “Rating Growth of Scientific Knowledge and Risk from Theory Bubbles” (2011). [arXiv:1108.5282]
369. Kulkarni, G., & Loeb, A. “Formation of Galactic Nuclei with Multiple Supermassive Black Holes at High Redshifts”, *MNRAS*, (2011). [arXiv:1107.0517]

368. Villaescusa-Navarro, F., Vogelsberger, M., Viel, M., & Loeb, A. “Neutrino Signatures on the High Transmission Regions of the Lyman-alpha Forest”, *Phys. Rev. Lett.* (2011). [arXiv:1106.2543]
367. Broderick, A. E., Fish, V. L., Doeleman, S. S., & Loeb, A. “Constraining the Structure of Sagittarius A*’s Accretion Flow with Millimeter-VLBI Closure Phases”, *ApJ* (2011). [arXiv:1106.2550]
366. Burns, J. O., et al. “Probing the First Stars and Black Holes in the Early Universe with the Dark Ages Radio Explorer (DARE)”, *Adv. Space Res.* (2011). [arXiv:1106.5194]
365. Gültekin, K., Tremaine, S., Loeb, A., & Richstone, D. O. “Observational selection effects and the M-sigma relation”, *ApJ* (2011). [arXiv:1106.1079]
364. Stone, N., & Loeb, A. “Tidal Disruption Flares of Stars From Moderately Recoiled Black Holes”, *MNRAS* (2011). [arXiv:1105.4966]
363. Visbal, E., Trac, H., & Loeb, A. “Demonstrating the Feasibility of Line Intensity Mapping Using Mock Data of Galaxy Clustering from Simulations”, *JCAP* (2011). [arXiv:1104.4809]
362. Zauderer, A., Berger, E., Soderberg, A. M., Loeb, A., Narayan, R., et al. “The Birth of a Relativistic Outflow in the Unusual γ -ray Transient Swift J16449.3+573451”, *Nature* (2011). [arXiv:1106.3568]
361. Broderick, A., Loeb, A., & Reid, M. J. “Localizing Sagittarius A* and M87 on Microarcsecond Scales with Millimeter VLBI”, *ApJ* (2011). [arXiv:1104.3146]
360. Kocsis, B., Yunes, N., & Loeb, A. “Observable Signatures of EMRI Black Hole Binaries Embedded in Thin Accretion Disks”, *Phys. Rev. D* (2011). [arXiv:1104.2322]
359. Yunes, N., Kocsis, B., Loeb, A., & Haiman, Z. “Imprint of Accretion Disk-Induced Migration on Gravitational Waves from Extreme Mass Ratio Inspirals”, *Phys. Rev. Lett.* (2011). [arXiv:1103.4609]
358. Zavala, J., Vogelsberger, M., Slatyer, T. R., Loeb, A., & Springel, V. “The Cosmic X-ray and Gamma-ray Background from Dark Matter Annihilation”, *Phys. Rev. D*, 2011. [arXiv:1103.0776]

357. O’Leary, R., & Loeb, A. “Recoiled Star Clusters in the Milky Way Halo: N-body Simulations and a Candidate Search through SDSS”, MNRAS, 2011. [arXiv:1102.3695]
356. Mirabel, I. F., Dijkstra, M., Laurent, P., Loeb, A., & Pritchard, J. R., “Stellar Black Holes at the Dawn of the Universe”, Astron. & Astrophys., **528**, 149, 2011.
355. Loeb, A. “On the Importance of Hypervelocity Stars for the Long-Term Future of Cosmology”, JCAP, 2011. [arXiv:1102.0007]
354. Balberg, S., & Loeb, A. “Supernova Shock Breakout Through a Wind”, MNRAS, 2011. [arXiv:1101.1489]
353. Pritchard, J. & Loeb, A. “Hydrogen Was Not Ionized Abruptly”, Nature **468**, 772, 2010.
352. Chakraborti, S., Ray, A., Soderberg, A., Loeb, A., & Chandra, P. “Ultra High Energy Cosmic Ray Acceleration in Engine-driven Relativistic Supernovae”, Nature, 2010. [arXiv:1012.0850]
351. Faucher-Giguere, C.-A., & Loeb, A. “Pulsar-Black Hole Binaries in the Galactic Center”, MNRAS, 2010. [arXiv:1012.0573]
350. Rubin, D., & Loeb, A. “Constraining the Stellar Mass Function in the Galactic Center via Mass Loss from Stellar Collisions”, Advances in Astronomy, 174105, 2011. [arXiv:1012.0583]
349. Loeb, A., & Weiner, N. “Cores in Dwarf Galaxies from Dark Matter with a Yukawa Potential”, Phys. Rev. Lett. **106**, 171302 2011. [arXiv:1011.6374]
348. Stacy, A., Bromm, V., & Loeb, A. “Effect of Streaming Motion of Baryons Relative to Dark Matter on the Formation of the First Stars”, ApJL, **730**, L1, 2011.
347. Wyithe, S., & Loeb, A. “Extrapolating the Evolution of Galaxy Sizes to the Epoch of Reionization”, ApJL, 2010. [arXiv:1011.3210]
346. Broderick, A., Fish, V., Doeleman, S., & Loeb, A. “ Evidence for Low Black Hole Spin and Physically Motivated Accretion Models from Millimeter VLBI Observations of Sagittarius A*”, ApJ, 2010. [arXiv:1011.2770]

345. Conroy, C., Loeb, A., & Spergel, D. N. “Evidence Against Dark Matter Halos Surrounding the Globular Clusters MGC1 and NGC 2419”, *ApJL*, 2010. [arXiv:1010.5783]
344. Munoz, J., & Loeb, A. “Constraining the Minimum Mass of High-Redshift Galaxies and Their Contribution to the Ionization State of the IGM”, *ApJ*, **729**, 99, 2011.
343. Stacy, A., Bromm, V., & Loeb, A. “Rotation Speed of the First Stars”, *MNRAS*, 2010. [arXiv:1010.0997]
342. Blecha, L., Cox, T. J., Loeb, A., & Hernquist, L. “Recoiling Black Holes in Merging Galaxies: Relationship to AGN Lifetimes, Starbursts, and the M-sigma Relation“, *MNRAS*, 2010. [arXiv:1009.4940]
341. Barkana, R., & Loeb, A. “Scale-Dependent Bias of Galaxies from Baryonic Acoustic Oscillations”, *MNRAS*, 2011. [arXiv:1009.1393]
340. Visbal, E., & Loeb, A. “Measuring the 3D Clustering of Undetected Galaxies Through Cross Correlation of their Cumulative Flux Fluctuations from Multiple Spectral Lines”, *JCAP*, **11**, 016, 2010.
339. Loeb, A. “Taking “The Road Not Taken”: On the Benefits of Diversifying Your Academic Portfolio”, *Nature* **467**, 358, 2010. [arXiv:1008.1586]
338. Adshead, P., Easther, R., Pritchard, J., & Loeb, A. “Inflation and the Scale Dependent Spectral Index: Prospects and Strategies”, *JCAP*, **02**, 021, 2011.
337. Bittner, J., & Loeb, A. “Measuring the Redshift of Reionization with a Modest Array of Low-Frequency Dipoles”, *JCAP*, 2011. [arXiv:1006.5460]
336. Pritchard, J., & Loeb, A. “Constraining the Unexplored Period Between Reionization and the Dark Ages with Observations of the Global 21-cm Signal”, *Phys. Rev. D*, **82**, 3006, 2010.
335. Stone, N., & Loeb, A. “Repeating Tidal Disruption of Stars as a Prompt Electromagnetic Signature of Supermassive Black Hole Coalescence”, *MNRAS*, **412**, 75, 2011.

334. Lacki, B. C., Thompson, T. A., Quataert, E., Loeb, A., & Waxman, E. “On The GeV & TeV Detections of the Starburst Galaxies M82 & NGC 253”, *ApJ*, **734**, 107, 2010.
333. Keshet, U., & Loeb, A. “Using Radio Halos and Minihalos to Measure the Distributions of Magnetic Fields and Cosmic-Rays in Galaxy Clusters”, *ApJ*, **722**, 737, 2010.
332. Civano, F., et al. “A Runaway Black Hole in COSMOS: Gravitational Wave or Slingshot Recoil?”, *ApJ* **717**, 209 , 2010.
331. Keshet, U., Markevitch, M., Birnboim, Y., & Loeb, A. “Dynamics and Magnetization in Galaxy Cluster Cores Traced by X-ray Cold Fronts”, *ApJL*, **719**, L74, 2010.
330. Yunes, N., Psaltis, D., Ozel, F., & Loeb, A. “Constraining Parity Violation in Gravity with Measurements of Neutron-Star Moments of Inertia”, *Phys. Rev. D***81**, 064020, 2010.
329. Broderick, A., & Loeb, A. “Portrait of a Black Hole”, *Scientific American*, Dec. issue, 42, 2010. [<http://cfa-www.harvard.edu/~loeb/sciam2.pdf>]
328. Patnaude, D., Loeb, A., & Jones, C. “Evidence for a Black Hole Remnant in the Type IIL Supernova 1979C”, *New Astronomy*, **16**, 187, 2011.
327. Shen, Y., & Loeb, A. “Identifying Supermassive Black Hole Binaries With Broad Emission Line Diagnosis”, *MNRAS*, **725**, 249, 2010.
326. Fish, V., Doeleman, S., Broderick, A. , Loeb, A., & Rogers, A. “Detecting Changing Polarization Structures in Sagittarius A* with High Frequency VLBI”, *ApJ*, **706**, 1353, 2009.
325. Loeb, A. “Electromagnetic Signature of Galactic Black Hole Binaries That Enter Their Gravitational-Wave Induced Inspiral”, *Phys. Rev. D* **81**, 047503, 2010.
324. Pritchard, J., Loeb, A., & Wyithe, J.S.W. “Constraining Reionization Using 21-cm Observations in Combination with CMB and Lyman-alpha Forest Data”, *MNRAS*, **408**, 57, 2010.

323. Moro-Martin, A., Turner, E. L., & Loeb, A. “Will LSST Detect Extra-Solar Planetesimals Entering the Solar System?”, *ApJ*, **704**, 733, 2009.
322. Broderick, A., & Loeb, A. “Signatures of Relativistic Helical Motion in the Rotation Measures of AGN Jets”, *ApJ*, **703**, L104, 2009.
321. Barkana, R., & Loeb, A. “Concentrating the Dark Matter in Galaxy Clusters through Tidal Stripping of Baryonically-Compressed Galactic Halos”, *MNRAS* **405**, 1969, 2010.
320. Cen, R., McDonald, P., Trac, H., & Loeb, A. “Probing the Epoch of Reionization with the Lyman Alpha Forest at $z \sim 4-5$ ”, *ApJ*, **706**, L164, 2009.
319. Doeleman, S. et al. “Imaging an Event Horizon: submm-VLBI of a Super-Massive Black Hole”, 2009. [arXiv:0906.3899]
318. Munoz, J. A., Trac, H., & Loeb, A. “Galaxy Statistics in Pencil-beam Surveys at High Redshifts”, *MNRAS* **405**, 2001, 2009.
317. Munoz, J. A., Madau, P., Loeb, A., & Diemand, J. “Probing the Epoch of Reionization with Milky-Way Satellites”, *MNRAS*, **400**, 1593, 2009.
316. Bagla, J.S., & Loeb, A. “The Hyperfine Transition of $^3\text{He}+$ as a Probe of the Intergalactic Medium”, 2009. [arXiv:0905.1698]
315. Faucher-Giguere, C.-A., & Loeb, A. “The Pulsar Contribution to the Gamma-Ray Background”, *JCAP*, **1**, 5, 2010.
314. Birnboim, Y., & Loeb, A. “The Kinetic Sunyaev-Zel’dovich effect of the Milky Way Halo“, *JCAP*, **6**, 008, 2009.
313. Broderick, A., Loeb, A., & Narayan, R. “The Event Horizon Around SgrA*“, *ApJ*, **701**, 2, 2009. [arXiv:0903.1105]
312. Dijkstra, M., & Loeb, A., “Upper Limit on Dimming of Cosmological Sources by Intergalactic Grey Dust Based on the Soft X-ray Background”, *MNRAS*, **397**, 4, 2009.
311. Dijkstra, M., & Loeb, A., “Lyman Alpha ‘Blobs’ as an Observable Signature of Cold Accretion Streams into Galaxies”, *MNRAS*, **400**, 1109, 2009.

310. Ghez, A., et al., “The Galactic Center: A Laboratory for Fundamental Astrophysics and Galactic Nuclei”, 2009. [arXiv:0903.0383]
309. Madau, P., et al., “Massive Black Holes Across Cosmic Time”, 2009. [arXiv:0903.0097]
308. Cooke, J., et al., “First Light Sources at the End of the Dark Ages: Direct Observations of Population III Stars, Proto-Galaxies, and Supernovae During the Reionization Epoch”, 2009. [arXiv:0902.4602]
307. Soderberg, A., et al., “The Dynamic X-ray Sky of the Local Universe”, 2009. [arXiv:0902.3674]
306. McQuinn, M., et al., “In Situ Probes of the First Galaxies and Reionization: Gamma-ray Bursts”, 2009. [arXiv:0902.3442]
305. Furlanetto, S., et al., “Cosmology from the Highly-Redshifted 21 cm Line”, 2009. [arXiv:0902.3259]
304. Moustakas, L. A., et al., “Strong gravitational lensing probes of the particle nature of dark matter”, 2009. [arXiv:0902.3219]
303. Peterson, J. B., et al., “21 cm Intensity Mapping”, 2009. [arXiv:0902.3091]
302. Furlanetto, S., et al., “Astrophysics from the Highly-Redshifted 21 cm Line”, 2009. [arXiv:0902.3011]
301. Cooray, A., et al., “A New Era in Extragalactic Background Light Measurements: The Cosmic History of Accretion, Nucleosynthesis and Reionization”, 2009. [arXiv:0902.2372]
300. Bloom, J., et al. “Coordinated Science in the Gravitational and Electromagnetic Skies”, 2009. [arXiv:0902.1527]
299. Broderick, A., & Loeb, A., “Imaging the Black Hole Silhouette of M87: Implications for Jet Formation and Black Hole Spin”, *ApJ*, **697**, 2, 2009. [arXiv:0812.0366]
298. Visbal, E., Loeb, A., & Wyithe, J. S. W., “Cosmological Constraints from 21cm Surveys After Reionization”, *JCAP*, **10**, 30 2009.

297. Loeb, A., “The Race Between Stars and Quasars in Reionizing Cosmic Hydrogen”, *JCAP*, **3**, 22, 2009. [arXiv:0811.2222]
296. Wyithe, J. S. B., & Loeb, A., “Evidence for Merger-Driven Activity in the Clustering of High Redshift Quasars”, *MNRAS*, **395**, 1607, 2009.
295. Broderick, A., Fish, V. L., Doeleman, S. S., & Loeb, A., “Estimating the Parameters of Sgr A*’s Accretion Flow Via Millimeter VLBI”, *ApJ*, **697**, 1, 2009. [arXiv:0809.4490]
294. Fish, V. L., Broderick, A., Doeleman, S. S., & Loeb, A., “Using Millimeter VLBI to Constrain RIAF Models of Sagittarius A*”, *ApJL*, **692**, L14, 2009.
293. O’Leary, R., & Loeb, A. “Star Clusters Around Recoiled Black Holes in the Milky Way Halo”, *MNRAS*, **395**, 2, 2009.
292. Waxman, E., & Loeb, A. “Constraints on the Local Sources of Ultra High-Energy Cosmic Rays”, *JCAP*, **8**, 26, 2009.
291. Doeleman, S. S., Fish, V. L., Broderick, A., Loeb, A., & Rogers, A. “Detecting flaring structures in Sagittarius A* with high frequency VLBI”, *ApJ*, **695**, 1, 2009. [arXiv:0809.3424]
290. Wyithe, S., & Loeb, A. “The 21cm Power Spectrum After Reionization”, *MNRAS* **397**, 1976, 2008.
289. Shattow, G., & Loeb, A. “Implications of Recent Measurements of the Milky Way Rotation for the Orbit of the Large Magellanic Cloud”, *MNRAS*, **392**, L21, 2009. [arXiv:0808.0104]
288. Trac, H., Cen, R., & Loeb, A. “Imprint of Inhomogeneous Hydrogen Reionization on the Temperature Distribution of the Intergalactic Medium”, *ApJ*, **689**, L81, 2008. [arXiv:0807.4530]
287. O’Leary, R., Kocsis, B., & Loeb, A. “Gravitational Waves from Scattering of Stellar-Mass Black Holes in Galactic Nuclei”, *MNRAS*, **395**, 4, 2009. [arXiv:0807.2638]
286. Fish, V. L., Doeleman, S. S., Broderick, A., Loeb, A., & Rogers, A. “Detecting Flaring Structures in Sagittarius A* with (Sub)Millimeter VLBI”, *Proc. of the XXIX URSI General Assembly*, 2008. [arXiv:0807.2427]

285. Loeb, A. “Long-Term Evolution in Transit Duration of Extrasolar Planets from Magnetic Activity in their Parent Stars”, *New Astronomy*, **14**, 363, 2009. [arXiv:0807.0835]
284. Dijkstra, M., & Loeb, A. “Acceleration of Galactic Supershells by Ly α Radiation”, *MNRAS*, **396**, 1, 2009. [arXiv:0809.2099]
283. Dijkstra, M., & Loeb, A. “Ly α Driven Outflows Around Star Forming Galaxies”, *MNRAS*, **391**, 457, 2008. [arXiv:0807.2645]
282. Blecha, L., & Loeb, A. “Effects of gravitational-wave recoil on the dynamics and growth of supermassive black holes”, *MNRAS*, **390**, 1311, 2008. [arXiv:0805.1420]
281. Munoz, J., & Loeb, A. “The Density Contrast of the Shapley Supercluster”, *MNRAS*, **391**, 1341, 2008. [arXiv:0805.0596]
280. Loeb, A. “Let there be Light: the Emergence of Structure out of the Dark Ages in the Early Universe”, invited review for the UNESCO EOLSS ENCYCLOPEDIA, 2008. [arXiv:0804.2258]
279. Kocsis, B., & Loeb, A. “Brightening of an Accretion Disk Due to Viscous Dissipation of Gravitational Waves During the Coalescence of Supermassive Black Holes”, *Phys. Rev. Lett.*, **101**, 041101, 2008. [arXiv:0803.0003]
278. Loeb, A. “21cm Absorption by Compact Hydrogen Disks Around Black Holes in Radio-Loud Galactic Nuclei”, *JCAP*, **5**, 8, 2008. [arXiv:0802.2717]
277. Pritchard, J. R., & Loeb, A. “Evolution of the 21 cm signal throughout cosmic history”, *Phys. Rev. D*, **78**, 10, 2008. [arXiv:0802.2102]
276. Loeb, A. “Future of Our Universe”, *Physica Plus*, 2008. [<http://www.cfa.harvard.edu/~loeb/F.pdf>]
275. Reid, M., Broderick, A., Loeb, A., Honma, M., & Brunthaler, A., “Limits on the Position Wander of Sgr A*”, *ApJ*, **682**, 1041, 2008. [arXiv:0801.4505]
274. Loeb, A., & Wyithe, S., “Possibility of Precise Measurement of the Cosmological Power Spectrum With a Dedicated 21cm Survey After Reionization”, *Phys. Rev. Lett.*, **100**, 161301, 2008. [arXiv:0801.1677]

273. Loeb, A., “Is a Classical Language Adequate in Assessing the Detectability of the Redshifted 21cm Signal from the Early Universe?”, *JCAP*, **4**, 21, 2008. [arXiv:0801.0441]
272. Loeb, A., & Narayan, R., “Dynamical Constraints on the Local Group from the CMB and 2MRS Dipoles”, *MNRAS*, **386**, 2221, 2008. [arXiv:0711.3809]
271. Loeb, A. “The Frontier of Reionization: Theory and Forthcoming Observations”, opening lecture for “Astrophysics In the Next Decade”, [arXiv:0711.3463]
270. Munoz, J. A., & Loeb, A., “Light-Cone Distortion of the Clustering and Abundance of Massive Galaxies at High-Redshifts”, *MNRAS*, **386**, 2323, 2008. [arXiv:0711.2515]
269. Dijkstra, M., & Loeb, A., “The Polarization of Scattered Lyman Alpha Radiation Around High-Redshift Galaxies”, *MNRAS*, **386**, 492, 2008. [arXiv:0711.2312]
268. Munoz, J. A., & Loeb, A., “Verifying the Identity of High-Redshift Massive Galaxies Through the Clustering of Lower Mass Galaxies Around Them”, *MNRAS*, **385**, 2175, 2008. [arXiv:0711.0467]
267. Wyithe, S., Loeb, A., & P. M. Geil, “Baryonic Acoustic Oscillations in 21cm Emission: A Probe of Dark Energy”, *MNRAS*, **383**, 1159, 2008.
266. Sherwin, B. D., Loeb, A., O’Leary, R., “Hypervelocity Stars from the Andromeda Galaxy”, *MNRAS*, **386**, 1179, 2008. [arXiv:0709.1156]
265. Wyithe, S., & Loeb, A., “Fluctuations in 21cm Emission After Reionization”, *MNRAS*, **383**, 606, 2007. [arXiv:0708.3392]
264. Wyithe, S., & Loeb, A., “The Imprint of Cosmic Reionization on Galaxy Clustering”, *MNRAS*, **382**, 921, 2007. [arXiv:0706.3744]
263. Bromm, V., & Loeb, A., “GRB Cosmology”, invited chapter in a book on *The Physics of Gamma-Ray Bursts*, Cambridge University Press, 2007. [arXiv:0706.2445]

262. Barkana, R., & Loeb, A., “The Difference PDF of 21-cm Fluctuations: A Powerful Statistical Tool for Probing Cosmic Reionization”, *MNRAS*, **384**, 1069, 2008.
261. Wyithe, S., Loeb, A., & Schmidt, B., “The Correlation Between Star Formation and 21cm Emission During the Reionization Epoch”, *MNRAS*, **380**, 1087, 2007. [arXiv:0705.1825]
260. Cox, T. J., & Loeb, A., “The Collision Between the Milky-Way and Andromeda Galaxies”, *MNRAS*, **386**, 461, 2008. [arXiv:0705.1170]
259. Babich, D., & Loeb, A., “Imprint of Distortions in the Oort Cloud on the CMB Anisotropies”, *MNRAS*, **14**, 2, 2009. [arXiv:0705.0987]
258. Kocsis, B., & Loeb, A., “Distortion of Gravitational-Wave Packets Due to their Self-Gravity”, *Phys. Rev. D*, **76**, 084022, 2007. [arXiv:0704.1149]
257. Loeb, A., “Observable Signatures of a Black Hole Ejected by Gravitational Radiation Recoil in a Galaxy Merger”, *Physical Review Letters*, **99**, 041103, 2007. [astro-ph/0703722]
256. Loeb, A., “Missing Pages in Our Photo Album of the Infant Universe”, *Physica Plus*, **8**, 2007. [astro-ph/0702298]
255. Loeb, A., & Waxman, E. “Properties of the Radio-Emitting Gas Around SgrA*”, *JCAP*, **03**, 011, 2007. [astro-ph/0702043]
254. Carilli, C., Hewitt, J. N., & Loeb, A. “Low-Frequency Radio Astronomy from the Moon: Cosmic Reionization”, *The Return to The Moon Conf. Proc.*, STScI, 2007. [astro-ph/0702070]
253. Stark, D., Loeb, A., & Ellis, R. S. “An Empirically-Calibrated Model for Interpreting the Evolution of Galaxies During the Reionization Era”, *ApJ*, **668**, 627, 2007. [astro-ph/0701882]
252. Hoffman, L., & Loeb, A. “Dynamics of triple black hole systems in hierarchically merging massive galaxies“, *MNRAS*, **377**, 957, 2007.
251. Barkana, R., & Loeb, A. “The Physics and Early History of the Intergalactic Medium”, *Rep. Prog. Phys.*, **70**, 627-657, 2007. [astro-ph/0611541]

250. Loeb, A., & Zaldarriaga, M., “Eavesdropping on Radio Broadcasts from Galactic Civilizations with Upcoming Observatories for Redshifted 21cm Radiation”, JCAP, **1**, 20, 2007. [astro-ph/0610377]
249. Wyithe, S., & Loeb, A., “The correlation between the distribution of galaxies and 21cm emission at high redshifts”, MNRAS, **375**, 1034, 2007.
248. Loeb, A., “The Dark Ages of the Universe”, Scientific American, **295**, 46, 2006. [<http://cfa-www.harvard.edu/~loeb/sciam.pdf>]
247. Ginsburg, I., & Loeb, A., “Hypervelocity Collisions of Binary Stars at the Galactic Centre”, MNRAS, **376**, 492, 2007.
246. Babich, D. & Loeb, A., “CMB Anisotropies from Outflows in Lyman Break Galaxies”, MNRAS, **374**, L24 , 2007.
245. O’Leary, R., & Loeb, A., “Production of Hypervelocity Stars through Encounters with Stellar-Mass Black Holes in the Galactic Centre”, MNRAS, **383**, 86, 2008. [astro-ph/0609046]
244. Thompson, T., Quataert, E., Waxman, E., & Loeb, A., “Assessing the Starburst Contribution to the Gamma-Ray and Neutrino Backgrounds”, 2006. [astro-ph/0608699]
243. Dijkstra, M., & Loeb, A., “Requirements for Cosmological 21cm Masers”, New Astronomy, **13**, 395, 2008.
242. Broderick, A., & Loeb, A., “Testing General Relativity with High-Resolution Imaging of Sgr A*”, Journal of Physics: Conference Series, **54**, 448, 2006. [astro-ph/0607279]
241. Wyithe, S., & Loeb, A., “Smooth Boundaries to Cosmological HII Regions from Galaxy Clustering”, MNRAS, **374**, 960, 2007.
240. Loeb, A., “Thermal Evaporation of Gas from X-ray Clusters”, JCAP, **03**, 1, 2007.
239. Loeb, A., “First Light in the Universe”, SAAS-Fee Advanced Course, 158 pages, Springer Verlag, Berlin 2008. [astro-ph/0603360]

238. Loeb, A., “An Observational Test for the Anthropic Origin of the Cosmological Constant”, JCAP, **5**, 9, 2006.
237. Loeb, A., & Waxman, E. “The Cumulative Background of High-Energy Neutrinos”, JCAP, **5**, 3, 2006.
236. Wyithe, S., & Loeb, A. “Suppression of Dwarf Galaxy Formation By Cosmic Reionization”, Nature, **411**, 322, 2006. [astro-ph/0603550]
235. Bromm, V., & Loeb, A. “GRB Cosmology and the First Stars”, invited review, *Gamma-Ray Bursts in the Swift Era*, Sixteenth Maryland Astrophysics Conference, held 29 November - 2 December, 2005 in Washington, DC. Edited by S.S. Holt, N. Gehrels, and J.A. Nousek. AIP Conference Proceedings, Vol. 836. Melville, NY: American Institute of Physics, p.503-512, 2006. [astro-ph/0601216]
234. Barkana, R., & Loeb, A. “Light-Cone Anisotropy in 21cm Fluctuations During the Epoch of Reionization”, MNRAS, **372**, 43 2006.
233. Hoffman, L., & Loeb, A. “ Three-Body Kick to a Bright Quasar out of Its Galaxy During a Merger”, ApJ, **638**, L75, 2006.
232. Ginsburg, I., & Loeb, A. “The Fate of Former Companions to Hypervelocity Stars Originating at the Galactic Center”, MNRAS, **368**, 221, 2006.
231. Barkana, R., & Loeb, A. “Detecting Reionization in the Star Formation Histories of High-Redshift Galaxies”, MNRAS, **371**, 395 2006.
230. Babich, D., & Loeb, A. “Imprint of Inhomogeneous Reionization on the Power Spectrum of Galaxy Surveys at High Redshifts”, ApJ, **640**, 1, 2006.
229. Bromm, V., & Loeb, A. “High-Redshift Gamma-Ray Bursts from Population III Progenitors”, ApJ, **642**, 382, 2006.
228. Broderick, A., & Loeb, A. “Imaging Optically-Thin Hot Spots Near the Black Hole Horizon of Sgr A* at Radio and Near-Infrared Wavelengths”, MNRAS, **367**, 503, 2005.
227. Brunthaler, A., Reid, M. J., Loeb, A., & Falcke, H. “The proper motion of M 33”, Astronomische Nachrichten, **326**, 487, 2005.

226. Quataert, E., & Loeb, A. “Nonthermal THz to TeV Emission from Stellar Wind Shocks in the Galactic Center”, *ApJL*, **635**, L45, 2005.
225. Broderick, A., & Loeb, A. “Frequency-Dependent Shift in the Image Centroid of the Black Hole at the Galactic Center as a Test of General Relativity”, *ApJ*, **636**, L109, 2006.
224. Wyithe, S.J.B., & Loeb, A. “Cosmic Variance In the Transparency of the Intergalactic Medium After Reionization”, *ApJ*, **646**, 696 2006.
223. Loeb, A., Reid, M. J., Brunthaler, A., & Falcke, H., “Constraints on the Proper Motion of the Andromeda Galaxy Based on the Survival of Its Satellite M33 Through the Dynamics of the Local Group”, *ApJ*, **633**, 894, 2005.
222. Broderick, A., & Loeb, A., “Imaging Bright Spots in the Accretion Flow Near the Black Hole Horizon of SgrA*”, *MNRAS*, **363**, 353 2005.
221. Wyithe, S.J.B., & Loeb, A., “Constraints on the Process that Regulates the Growth of Supermassive Black Holes Based on the Intrinsic Scatter in the $M_{\text{bh}}-\sigma$ Relation”, *ApJ*, **634**, 910, 2005.
220. Wyithe, J. S. B., Loeb, A., & Barnes, D., “Prospects for Redshifted 21-cm observations of quasar HII regions”, *ApJ*, **634**, 715, 2005.
219. Babich, D., & Loeb, A., “Polarization of 21cm Radiation from the Epoch of Reionization”, *ApJ*, **635**, 1, 2005.
218. Maoz, D., Waxman, E., & Loeb, A. “The Remnants of Intergalactic Supernovae”, *ApJ*, **632**, 847, 2005.
217. Fang, T., Loeb, A., Tytler, D., Kirkman, D., & Suzuki, N. “Signature of Galactic Outflows as Absorption-Free Gaps in the Ly-alpha Forest”, 2005. [astro-ph/0505182]
216. Loeb, A., & Zaldarriaga, M., “The Small-Scale Power Spectrum of Cold Dark Matter”, *Phys. Rev. D* **71**, 103520, 2005. [astro-ph/0504112]
215. Barkana, R., & Loeb, A., “Probing the Epoch of Early Baryonic Infall Through 21cm Fluctuations”, *MNRAS*, **363**, L36, 2005.

214. Loeb, A., “A Dynamical Method for Measuring Masses of Stars with Transiting Planets”, *ApJ*, **623**, L45, 2005.
213. Hirata, C. M., Loeb, A., & Afshordi, N., “CMB B-mode polarization from Thomson scattering in the local universe”, *Phys. Rev. D*, **71**, 063531, 2005.
212. Wyithe, J. S. B., Loeb, A., & Carilli, C., “Improved Constraints on The Neutral Intergalactic Hydrogen Surrounding Quasars at Redshifts $z > 6$ ” *ApJ*, **628**, 575, 2005.
211. Barkana, R., & Loeb, A., “Detecting the Earliest Galaxies Through Two New Sources of 21cm Fluctuations”, *ApJ*, **626**, 1, 2005.
210. Furlanetto, S., & Loeb, A. “Is Double Reionization Physically Plausible?”, *ApJ*, **634**, 1, 2005.
209. Barkana, R., & Loeb, A., “A Method for Separating the Physics from the Astrophysics of High-Redshift 21 Centimeter Fluctuations”, *ApJ*, **624**, L65, 2005.
208. Wyithe, J. S. B., & Loeb, A., “A Size of ~ 10 Mpc for the Ionized Bubbles at the End of Cosmic Reionization”, *Nature*, **432**, 194, 2004. [astro-ph/0409412]
207. Loeb, A., “The Environmental Impact of Supermassive Black Holes”, invited contribution to Proc. of the Conf. on “Growing Black Holes” held in Garching, Germany, on June 21-25, 2004, edited by A. Merloni, S. Nayakshin and R. Sunyaev, Springer-Verlag series of “ESO Astrophysics Symposia”, 2004. [astro-ph/0408166]
206. Wyithe, J. S. B., & Loeb, A., “Undetected Sources Allow Transmission of the Ly α Line From Galaxies Prior to Reionization”, *ApJ*, **625**, 1, 2005.
205. Keshet, U., Waxman, E., & Loeb, A., “Searching for Intergalactic Shocks with the SKA”, in “Astrophysics with the Square Kilometer Array”, eds. C. Carilli and S. Rawlings, *New Astronomy Reviews*, **48**, 1119, 2004 [astro-ph/0407243]

204. Granot, J., Ramirez-Ruiz, E., & Loeb, A., “Implications of the Measured Image Size for the Radio Afterglow of GRB 030329”, *ApJ*, **618**, 413, 2004.
203. Zhang, B., & Loeb, A., “A model for the flaring radio emission in the double pulsar system J0737-3039”, *ApJL*, **614**, L53, 2004.
202. Wyithe, J. S. B., & Loeb, A., “Calibrating the Galaxy Halo - Black Hole Relation Based on the Clustering of Quasars”, *ApJ*, **621**, 95, 2005.
201. Loeb, A., Barkana, R., & Hernquist, L., “Was the Universe Reionized at $z=10$?”, *ApJ*, 620, 553, 2005.
200. Sagiv, A., Waxman, E., & Loeb, A. “Probing the Magnetic Field Structure in Gamma-Ray Bursts through Dispersive Plasma Effects on the Afterglow Polarization”, *ApJ*, **615**, 253, 2004.
199. Dijkstra, M., Haiman, Z., & Loeb, A. “A Limit on the Contribution of Quasars to Reionization from the X-ray Background”, *ApJ*, **613**, 646, 2004.
198. Keshet, U., Waxman, E., & Loeb, A. “Imprint of Intergalactic Shocks on the Low-Frequency Radio Sky”, *ApJ*, **617**, 281, 2004.
197. Wyithe, S., & Loeb, A. “A large neutral fraction of cosmic hydrogen a billion years after the Big Bang”, *Nature*, **427**, 815, 2004. [astro-ph/0401188]
196. Milosavljevic, M., & Loeb, A. “The Link Between Warm Molecular Disks in Maser Nuclei and Star Formation Near the Black Hole at the Galactic Center”, *ApJL*, **604**, L45, 2004.
195. Bromm, V., & Loeb, A. “Accretion onto a primordial protostar”, *New Astronomy*, **9**, 353, 2004. [astro-ph/0312458]
194. Wyithe, S., & Loeb, A. “Redshifted 21cm Signatures Around the Highest Redshift Quasars”, *ApJ*, **610**, 117, 2004.
193. Hartmann, D. H., Grindlay, J., Band, D., Blandford, R., Craig, W., Fishman, G. J., Gherles, N., Harrison, F., Hong, J., Kouveliotou, C., Loeb, A., & Woosley, S.E. “Tracing Cosmic Star Formation with EXIST”, *New Astronomy Reviews*, **48**, 237, 2004.

192. Furlanetto, S., & Loeb, A. “Large-Scale Structure Shocks at Low and High Redshifts”, *ApJ*, **611**, 642, 2004.
191. Chuzhoy, L., & Loeb, A. “Element segregation in giant galaxies and X-ray clusters”, *MNRAS*, **349**, L13, 2004.
190. Gao, L., Loeb, A., Peebles, J. P. E., White, S. D. M., & Jenkins, A. “Early Formation and Late Merging of the Giant Galaxies”, *ApJ*, **614**, 17, 2004.
189. Loeb, A., & Zaldarriaga, M. “Measuring the Small-Scale Power Spectrum of Cosmic Density Fluctuations Through 21 cm Tomography Prior to the Epoch of Structure Formation”, *Phys. Rev. Lett.*, **92**, 211301, 2004.
188. Loeb, A. “Direct Feeding of the Black Hole at the Galactic Center with Radial Gas Streams from Close-In Stellar Winds”, *MNRAS*, **350**, 725, 2004.
187. Wyithe, S., & Loeb, A. “Detection of Gravitational Waves from the Coalescence of Population-III Remnants with Advanced LIGO”, *ApJL*, **612**, 597, 2004.
186. Loeb, A. “Apparent Deviations from Keplerian Acceleration for Stars Around the Supermassive Black Hole at the Galactic Center”, 2003. [astro-ph/0309716]
185. Chatterjee, P., Loeb, A., & Hernquist, L. “Evaporation of Stellar-Mass Black Holes from Globular Star Clusters”, 2003.
184. Doré, O., Holder, G. P., & Loeb, A. “The CMB Quadrupole in a Polarized Light”, *ApJ*, **612**, 81, 2004.
183. Pfahl, E. & Loeb, A. “Probing the Spacetime Around SgrA* With Radio Pulsars”, *ApJ*, **615**, 253, 2004.
182. Barkana, R. & Loeb, A. “Unusually Large Fluctuations in the Statistics of Galaxy Formation at High Redshift”, *ApJ*, **609**, 474, 2004.
181. Nagamine, K., & Loeb, A. “Future Evolution of the Intergalactic Medium in a Universe Dominated by a Cosmological Constant”, *New Astronomy*, **9**, 573, 2004.

180. Bromm, V., & Loeb, A. “The Formation of the First Low-Mass Stars From Gas With Low Carbon and Oxygen Abundance”, *Nature*, **425**, 812, 2003.
179. Loeb, A. “Detecting the First Stars, one Star at a Time”, Proc. of IAU Colloquim 192 on ”Supernovae”, April 2003, Valencia, Spain, eds. J. M. Marcaide and K. W. Weiler, 2003. [astro-ph/0307231]
178. Keshet, U., Waxman, E., & Loeb, A., “The Case for a Low Extragalactic Gamma-ray Background”, *JCAP*, **04**, 006, 2004. [astro-ph/0306442]
177. Barkana, R., & Loeb, A., “GRBs versus Quasars: Lyman- α Signatures of Reionization versus Cosmological Infall”, *ApJ*, **601**, 64, 2004.
176. Hartmann, D. H., Grindlay, J., Hong, J., Loeb, A., Blandford, R., Craig, W., Fishman, J., Kouveliotou, C., Gehrels, N., Band, D., Harrison, F., Woosley, S. E., “Observing GRBs with EXIST”, in *Gamma-Ray Bursts: 30 Years of Discovery: Gamma-Ray Burst Symposium*. AIP Conference Proceedings, Vol. 727, held 8-12 September, 2003 in Santa Fe, New Mexico. Edited by E. E. Fenimore and M. Galassi. Melville, NY: American Institute of Physics, p. 67, 2004.
175. Holder, G., & Loeb, A., “A Method for Mapping the Temperature Profile of X-ray Clusters Through Radio Observations”, *ApJ*, **602**, 659, 2004.
174. Loeb, A., “Spectroscopic Constraints on the Surface Magnetic Field of the Accreting Neutron Star EXO 0748-676”, *Phys. Rev. Lett.*, **91**, 071103, 2003.
173. Granot, J., & Loeb, A., “Radio Imaging of GRB Jets in Nearby Supernovae”, *ApJ*, **593**, L81, 2003.
172. Wyithe, J. S. B., & Loeb, A., “Self-Regulated Growth of Supermassive Black Holes in Galaxies as the Origin of the Optical and X-ray Luminosity Functions of Quasars”, *ApJ*, **595**, 614, 2003.
171. Santos, M., & Loeb, A., “A Method to Infer the Stellar Population that Dominated the UV Background at the End of Reionization”, 2003. [astro-ph/0304130]

170. Loeb, A., & Gaudi, B. S., “Periodic Flux Variability of Stars due to the Reflex Doppler Effect Induced by Planetary Companions”, *ApJL*, **588**, L117, 2003.
169. Wyithe, J. S. B, & Loeb, A., “Was the Universe Reionized by Massive Pop-III Stars?”, *ApJL*, **588**, L69, 2003.
168. Bromm, V., & Loeb, A., “The First Sources of Light”, Proc. of 13th Annual October Astrophysics Conference in Maryland, “The Emergence of Cosmic Structure”, College Park, October 2002. [astro-ph/0301406]
167. Wang, X., Loeb, A., & Waxman, E., “Stability of an Ultra-Relativistic Blast Wave in an External Medium with a Steep Power-Law Density Profile”, *ApJ*, **594**, 924 2003.
166. Bromm, V., & Loeb, A., “Formation of the First Supermassive Black Holes”, *ApJ*, **596**, 34, 2003.
165. Chatterjee, P., Hernquist, L., & Loeb, A., “Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers”, *ApJ*, **592**, 32, 2003.
164. Wyithe, S., & Loeb, A., “Low-Frequency Gravitational Waves from Massive Black Hole Binaries: Predictions for LISA and Pulsar Timing Arrays”, *ApJ*, **590**, 691, 2003.
163. Furlanetto, S. R., & Loeb, A., “Metal Absorption Lines as Probes of the Intergalactic Medium Prior to the Reionization Epoch”, *ApJ*, **588**, 18, 2003.
162. Loeb, A., & Peebles, P. J. E., “Cosmological Origin of the Stellar Velocity Dispersions in Massive Early-Type Galaxies”, *ApJ*, **589**, 29, 2003.
161. Barkana, R., & Loeb, A., “Spectral Signature of Cosmological Infall Around the First Quasars”, *Nature*, **421**, 341, 2003. [astro-ph/0209515]
160. Wyithe, J. S. B., & Loeb, A., “Reionization of Hydrogen and Helium by Early Stars and Quasars”, *ApJ*, **586**, 693, 2003.

159. Natarajan, P., Loeb, A. Kneib, J.-P., & Smail, I., “Constraints on the Collisional Nature of the Dark Matter from Gravitational Lensing in the Cluster A2218”, *ApJL*, **580**, L17, 2002.
158. Furlanetto, S., & Loeb, A. “The 21cm Forest: Radio Absorption Spectra as a Probe of the Intergalactic Medium Before Reionization“, *ApJ*, **579**, 1, 2002.
157. Wyithe, J. S. B., & Loeb, A., “A Physical Model for the Luminosity Function of High-Redshift Quasars”, *ApJ*, **581**, 886, 2002.
156. Wyithe, J. S. B., & Loeb, A., “Measuring the Size of Quasar Broad-Line Clouds Through Time Delay Light-Curve Anomalies of Gravitational Lenses”, *ApJ*, **577**, 615, 2002.
155. Nagamine, K., & Loeb, A., “Future Evolution of Nearby Large Scale Structure in a Universe Dominated by a Cosmological Constant”, *New Astronomy*, **8**, 439, 2002.
154. Barkana, R., & Loeb, A., “Effective Screening due to Minihalos During the Epoch of Reionization”, *ApJ*, **578**, 1, 2002.
153. Loeb, A., “Are X-ray Clusters Cooled by Heat Conduction to the Surrounding Intergalactic Medium?”, *New Astronomy*, **7**, 279, 2002.
152. Wyithe, S., & Loeb, A., “Gravitational Lensing of the SDSS High-Redshift Quasars”, *ApJ*, **577**, 57, 2002.
151. Furlanetto, S., & Loeb, A., “Identifying Gamma-Ray Burst Remnants Through Positron Annihilation Radiation”, *ApJ*, **569**, L91 , 2002.
150. Wyithe, S., & Loeb, A. “Are the Highest Redshift Quasars Magnified by Gravitational Lensing?”, *Nature*, **417**, 923, 2002. [astro-ph/0203116]
149. Keshet, U., Waxman, E., Loeb, A., Springel, V., & Hernquist, L. “Gamma-Rays from Intergalactic Shocks”, *ApJ*, **585**, 128, 2003.
148. Bromm, V., & Loeb, A. “The Expected Redshift Distribution of Gamma-Ray Bursts”, *ApJ*, **575**, 111, 2002.
147. Furlanetto, S., & Loeb, A. “Emission of Positron Annihilation Line Radiation by Clusters of Galaxies”, *ApJ*, **572**, 796, 2002.

146. Stancil, P. C., Loeb, A., Zaldarriaga, M., Dalgarno, A. and Lepp, S. “Cosmological Recombination of Lithium and its Effect on the Microwave Background Anisotropies”, *ApJ*, **580**, 29, 2002.
145. Loeb, A., & Waxman, E. “Galactic Constraints on the Sources of Ultra-High Energy Cosmic Rays”, 2002 [astro-ph/0205272]
144. Heyl, J. S. & Loeb, A. “Vacuum Decay Constraints on a Cosmological Scalar Field”, *Phys. Rev. Lett.*, **88**, 121302, 2002.
143. Chatterjee, P., Hernquist, L., & Loeb, A. “Brownian Motion in Gravitationally-Bound Systems”, *Phys. Rev. Lett.*, **88**, 121103, 2002.
142. Medvigi, D., & Loeb, A. “Element Diffusion During Cosmological Structure Formation”, 2001 [astro-ph/0110014]
141. Wang, X., Loeb, A., & Waxman, E. “Stability of the Forward/Reverse Shock System Formed by the Impact of a Relativistic Fireball on an Ambient Medium”, *ApJ*, **568**, 830, 2002.
140. Loeb, A. “Novel Ways to Probe the Universe with Gamma-Ray Bursts and Quasars”, invited contribution to the proceedings of the conference “Lighthouses in the Universe: The Most Luminous Celestial Objects and their use for Cosmology”, Garching, August 2001 (Springer-Verlag). [astro-ph/0108432]
139. Loeb, A. “The Long-Term Future of Extragalactic Astronomy”, *Phys. Rev. D* **65**, 047301, 2002. [astro-ph/0107568]
138. Furlanetto, S., & Loeb, A. “Constraining the Collisional Nature of the Dark Matter Through Observations of Gravitational Wakes”, *ApJ*, **565**, 854, 2002.
137. Chatterjee, P., Hernquist, L., & Loeb, A. “ Dynamics of a Massive Black Hole at the Center of a Dense Stellar System”, *ApJ*, **572**, 371 , 2002.
136. Loeb, A. “Cosmological Studies with Gamma-Ray Bursts”, chapter for the book “Supernovae and Gamma-Ray Bursters”, edited by K. W. Weiler, Springer-Verlag Press, 2001. [astro-ph/0106455]

135. Jimenez, R., & Loeb, A. “Constraining Cosmological Parameters Based on Relative Galaxy Ages”, *ApJ*, **573**, 37, 2002.
134. Zaldarriaga, M., & Loeb, A. “The Imprint of Lithium Recombination on the Microwave Background Anisotropies”, *ApJ*, **564**, 52, 2002.
133. Gaudi, B. S., Granot, J., & Loeb, A. “Microlensing and the Surface Brightness Profile of the Afterglow Image of GRB 000301C ”, *ApJ*, **561**, 178, 2001.
132. Waxman, E., & Loeb, A. “TeV Neutrinos and GeV Photons from Shock Breakout in Supernovae”, *Phys. Rev. Lett.*, **87**, 071101, 2001.
131. Loeb, A. “Probing the Universe After Cosmological Recombination Through the Effect of Neutral Lithium on the Microwave Background Anisotropies”, *ApJ*, **555**, L1, 2001.
130. Furlanetto, S. R., & Loeb, A. “Intergalactic Magnetic Fields from Quasar Outflows”, *ApJ*, **556**, 619, 2001.
129. Gaudi, B. S., & Loeb, A. “Resolving the Image of Gamma-Ray Burst Afterglows with Gravitational Microlensing”, *ApJ*, **558**, 643, 2001.
128. Granot, J., & Loeb, A. “Chromatic Signatures in the Microlensing of GRB Afterglows”, *ApJL*, **551**, L63, 2001.
127. Haiman, Z., & Loeb, A. “What is the Highest Plausible Redshift of Luminous Quasars?”, *ApJL*, **552**, 459, 2001.
126. Loeb, A., & Barkana, R., “The Reionization of the Universe by the First Stars and Quasars”, *Annual Reviews of Astronomy & Astrophysics*, **39**, 19–66, 2001. [astro-ph/0010467]
125. Barkana, R., & Loeb, A., “In the Beginning: The First Sources of Light and the Reionization of the Universe”, *Physics Reports*, **349**, 125–238, 2001. [astro-ph/0010468]
124. Loeb, A., Narayan, R., & Raymond, J. C., “Does the Mass Accretion Rate Depend on the Radius of the Accreting Star?”, *ApJ*, **547**, L151, 2001.

123. Wang, X., & Loeb, A., “Emission from Bow Shocks of Beamed Gamma-Ray Bursts”, *ApJ*, **552**, 49, 2001.
122. Alexander, T., & Loeb, A., “Enhanced Microlensing by Stars Around the Black Hole in the Galactic Center”, *ApJ*, **551**, 223, 2001.
121. Medvigy, D., & Loeb, A. “Steady-State Structure of Relativistic Collisionless Shocks”, 2000. [astro-ph/0012029]
120. Garnavich, P., Loeb, A., & Stanek, K., “Resolving Gamma-Ray Burst 000301C with a Gravitational Microlens”, *ApJ*, **544**, L11, 2000.
119. Bromm, V., Kudritzki, R. & Loeb, A., “Generic Spectrum and Ionization of a Heavy Initial Mass Function for the First Stars”, *ApJ*, **552**, 464, 2001.
118. Mao, S., & Loeb, A., “Gravitational Microlensing of Gamma-Ray Burst Afterglows by Single and Binary Stars”, *ApJ*, **547**, L97, 2000.
117. Waxman, E. & Loeb, A., “Fluctuations in the Radio Background from Intergalactic Synchrotron Emission”, *ApJ*, **545**, L11, 2000.
116. Loeb, A., & Waxman, E., “Gamma-Ray Background From Structure Formation in the Intergalactic Medium”, *Nature*, **405**, 156, 2000.
115. Ciardi, B., & Loeb, A., “Expected Number and Flux Distribution of Gamma-Ray-Burst Afterglows with High Redshifts”, *ApJ*, **540**, 687, 2000.
114. Barkana, R., & Loeb, A., “Identifying the Reionization Redshift from the Cosmic Star Formation Rate”, *ApJ*, **539**, 20, 2000.
113. Barkana, R., Hogg, D., Loeb, A., & Blandford, R., “Gravitational Lensing of High Redshift Sources”, Proc. of “Gravitational Lensing: Recent Progress and Future Goals”, Boston University, July 1999; edited by T. G. Brainerd and C. S. Kochanek [astro-ph/0001325]
112. Wood, K., & Loeb, A., “Escape of Ionizing Radiation from High-Redshift Galaxies”, *ApJ*, **545**, 86, 2000.
111. Wang, X., & Loeb, A., “Variability of GRB Afterglows Due to Interstellar Turbulence”, *ApJ*, **535**, 788, 2000.

110. Loeb, A., “The First Sources of Light in the Universe”, in ASP Conference Series, **193**, 586, 1999. [astro-ph/9907155]
109. Woods, E., & Loeb, A., “Radio Detection of Old GRB Remnants in the Local Universe”, 1999 [astro-ph/9907110]
108. Medvedev, M.V., & Loeb, A., “Generation of Magnetic Fields in the Relativistic Shock of Gamma-Ray Burst Sources”, ApJ, **526**, 697, 1999.
107. Haiman, Z., & Loeb, A., “X-Ray Emission from the First Quasars”, ApJL, **521**, L9, 1999.
106. Perna, R., Raymond, J., & Loeb, A., “Identifying Gamma-Ray Burst Remnants in Nearby Galaxies”, ApJ, **533**, 658, 2000.
105. Woods, E., & Loeb, A., “Constraints on Off-Axis X-Ray Emission from Beamed GRBs”, ApJ, **523**, 187, 1999.
104. Rybicki, G. B., & Loeb, A., “Polarization of the Ly α Halos Around Sources Before Cosmological Reionization”, ApJ, **520**, L79, 1999.
103. Loeb, A., & Rybicki, G. B., “Scattered Lyman-alpha Radiation Around Sources Before Cosmological Reionization”, ApJ, **524**, 527 1999. [astro-ph/9902180]
102. Heyrovsky, D., Sasselov, D., & Loeb, A., “Probing Red Giant Atmospheres with Gravitational Microlensing”, ApJ, **543**, 406, 2000.
101. Barkana, R., & Loeb, A., “The Photo-Evaporation of Dwarf Galaxies During Reionization”, ApJ, **523**, 54, 1999.
100. Haiman, Z., & Loeb, A., “Empirical Constraints on the First Stars and Quasars”, invited contribution to the 9th Annual October Maryland Astrophysics Conference on “After the Dark Ages: When Galaxies Were Young”, College Park, Maryland, October 1998. [astro-ph/9811395]
99. Perna, R., & Loeb, A., “Constraining the Beaming of Gamma-Ray Bursts with Radio Surveys”, ApJ, **509**, L85 1998.
98. Loeb, A., “Measuring the Virial Temperature of Galactic Halos Through Electron Scattering of Quasar Emission Lines”, ApJ, **508**, L115 1998.

97. Waxman, E., & Loeb, A., “A Sub-Relativistic Shock Model for the Radio Emission of SN1998bw”, *ApJ*, **515**, 721, 1999.
96. Haiman, Z. & Loeb, A., “Determining the Redshift of Reionization from the Spectra of High-Redshift Sources”, *ApJ*, **519**, 479, 1999.
95. Loeb, A., “The First Stars and Quasars”, invited contribution to Proc. of the 34th Liege International Astrophysics Colloquium on “The Next Generation Space Telescope”, June 1998. [astro-ph/9806163]
94. Haiman, H., Madau, P., & Loeb, A., “Constraints from the Hubble Deep Field on High Redshift Quasar Models”, *ApJ*, **514**, 535, 1999. [astro-ph/9805258]
93. Loeb, A. & Perna, R., “Are HI Shells the Remnants of Gamma-Ray Bursts?”, *ApJ*, **503**, 35, 1998.
92. Perna, R., & Loeb, A., “X-Ray Absorption by the Hot Intergalactic Medium”, *ApJL*, **503**, 135, 1998.
91. Woods, E., & Loeb, A., “The Expected Rate of Gamma-Ray Burst Afterglows In Supernova Searches”, *ApJL*, **508**, 760, 1998. [astro-ph/9803249]
90. Loeb, A., “Direct Measurement of Cosmological Parameters from the Cosmic Deceleration of Extragalactic Objects”, *ApJL*, **499**, 111, 1998.
89. Pen, U., Loeb, A., & Turok, N., “Gamma Ray Bursts from Baryon Decay in Neutron Stars”, *ApJ*, **509**, 537, 1998. [astro-ph/9712178]
88. Perna, R., & Loeb, A., “Identifying the Environment and Redshift of GRB Afterglows from the Time-Dependence of Their Absorption Spectra”, *ApJ*, **501**, 467, 1998.
87. Bartelmann, M., & Loeb, A., “Effects of Disks on Gravitational Lensing by Spiral Galaxies”, *ApJ*, **503**, 48, 1998.
86. Pilla, R., & Loeb, A., “Spectral Implications of Variability in GRB Fireballs”, to appear in Proc. of the VIII Marcel Grossman Meeting on General Relativity, Jerusalem, 1997. [astro-ph/9710293]

85. Pilla, R., & Loeb, A., “Emission Spectra from Internal Shocks in Gamma-Ray-Burst Sources”, *ApJL*, **494**, 167, 1998.
84. Haiman, Z., & Loeb, A., “Observational Signatures of the First Quasars”, *ApJ*, **503**, 505, 1998.
83. Loeb, A., & Perna, R., “Microlensing of Gamma-Ray Burst Afterglows”, *ApJL*, **495**, 597, 1998.
82. Fox, D., & Loeb, A., “Do the Electrons and Ions in X-ray Clusters Share the Same Temperature?”, *ApJ*, **491**, 459, 1997.
81. Perna, R., & Loeb, A., “Probing the Mass Fraction of MACHOs in Extragalactic Halos”, *ApJ*, **493**, 523, 1998.
80. Perna, R., Loeb, A., & Bartelmann, M. “Effects of Dust on Gravitational Lensing by Spiral Galaxies”, *ApJ*, **488**, 550, 1997.
79. Haiman, Z., & Loeb, A., “ Detection of the First Star Clusters with NGST”, contribution to “Science with the Next Generation Telescope”, eds. E. P. Smith A. Koratker, ASP Conf. Series, (ASP, San Francisco), 133, 251-256, 1998. [astro-ph/9705144]
78. Loeb, A., “The First Stars and Quasars in the Universe”, in “Science with the NGST”, eds. E. P. Smith A. Koratkar, ASP Conf. Series, (ASP, San Francisco), 133, 73-86, 1998. [astro-ph/9704290]
77. Loeb, A. & Haiman, Z., “Signatures of Intergalactic Dust from the First Supernovae”, *ApJL*, **490**, L571, 1997.
76. Kamionkowski, M. & Loeb, A., “Getting Around Cosmic Variance”, *Physical Review D*, **56**, 4511, 1997.
75. Loeb, A., & Ulmer, A., “Optical Appearance of the Debris of a Star Disrupted by a Massive Black Hole”, *ApJ*, **489**, 573, 1997.
74. Woods, E., & Loeb, A., “Constraints on Galaxy Evolution and the Cosmological Constant from Damped Ly-alpha Absorbers”, 1997. [astro-ph/9703076]
73. Heyrovsky, D., & Loeb, A., “Microlensing of an Elliptical Source by a Point Mass”, *ApJ*, **490**, 38, 1997.

72. Haiman, Z. & Loeb, A., “Formation and Signatures of the First Stars”, to appear in the Proceedings of the 18th Texas Symposium on Relativistic Astrophysics, Chicago, 1997, eds. A. Olinto, J. Frieman, D. Schramm, (World Scientific). [astro-ph/9701239]
71. Perna, R. & Loeb, A., “Microlensing of Quasars by Stars Within Their Damped Ly α Absorbers”, ApJ, **489**, 489, 1997.
70. Loeb, A., “Gravitational Lensing of Quasars by Spiral Galaxies”, to appear in the Proceedings of the 18th Texas Symposium on Relativistic Astrophysics, Chicago, 1997, eds. A. Olinto, J. Frieman D. Schramm, (World Scientific). [astro-ph/9701100]
69. Haiman, Z., & Loeb, A., “Signatures of Stellar Reionization of the Universe”, ApJ, **483**, 21, 1997.
68. Refregier, A., & Loeb, A., “Gravitational Lensing of the X-Ray Background by Clusters of Galaxies”, ApJ, **478**, 476, 1997.
67. Loeb, A., & Refregier, A., “Effect of Gravitational Lensing on Measurements of the Sunyaev-Zel’dovich Effect”, ApJL, **476**, L59, 1997.
66. Haiman, Z., Rees, M. J., & Loeb, A., “Destruction of Molecular Hydrogen During Cosmological Reionization”, ApJ, **476**, 458, 1997.
65. Eisenstein, D. J., Loeb, A., & Turner, E. L., “Dynamical Mass Estimates of Large-Scale Filaments From Redshift Surveys,” ApJ, **475**, 421, 1997.
64. Loeb, A., “Microwave Background Anisotropies Due to the Kinematic Sunyaev-Zeldovich Effect of the Ly α Forest,” ApJ, **471**, L1, 1996.
63. Kosowsky, A., & Loeb, A., “Faraday Rotation of the Microwave Background Polarization By a Primordial Magnetic Field,” ApJ, **469**, 1, 1996.
62. Haiman, Z., Rees, M., & Loeb, A., “H₂ Cooling of Primordial Gas Triggered by UV Irradiation,” ApJ, **467**, 522, 1996.
61. Haiman, Z., Thoul, A. A., & Loeb, A., “Cosmological Formation of Low-Mass Objects,” ApJ, **464**, 523, 1996.

60. Loeb, A., “Contribution of Bremsstrahlung Emission from Ly α Clouds to the Microwave Background Fluctuations,” *ApJ*, **459**, L5, 1996.
59. Eisenstein, D. J., & Loeb, A., “Can the Tully–Fisher Relation Be the Result of Initial Conditions?,” *ApJ*, **459**, 432, 1996.
58. Bartelmann, M., & Loeb, A., “Gravitational Lensing of Quasars by Their Damped Ly α Absorbers,” *ApJ*, **457**, 529, 1996.
57. Loeb, A., “Cosmological Origin of Quasars”, eds. H. Böhringer, G. E. Morfill, J. E. Trümper, *Ann. N.Y. Acad. Sci.*, **759**, 558, 1995.
56. Refregier, A., & Loeb, A., ”Probing Cluster Potentials through Gravitational Lensing of Background X-Ray Sources”, in *Proc. of ”Roentgenstrahlung from the Universe”*, Wuerzburg, Germany, eds. Zimmermann, U.H., et al. (Garching:MPE), 611, 1995. [preprint astro-ph/9512039].
55. Woods, E., & Loeb, A., “Empirical Constraints on Source Properties and Host Galaxies of Cosmological Gamma-Ray Bursts,” *ApJ*, **453**, 583, 1995.
54. Kumar, P., Narayan, R., & Loeb, A., “On the Interaction of Convection and Rotation in Stars,” *ApJ*, **453**, 480, 1995.
53. Ryu, D., Brown, G., Ostriker, J. P., & Loeb, A., “Stable and Unstable Accretion Flows with Angular Momentum near a Point Mass,” *ApJ*, **452**, 364, 1995.
52. Loeb, A., & Sasselov, D., “Removing the Degeneracy of Microlensing Light Curves Through Narrow Band Photometry of Giants,” *ApJ*, **449**, 33L, 1995.
51. Loeb, A., & Eisenstein, D. J., “Probing Early Clustering Through Ly α Absorption Lines Beyond the Quasar Redshift,” *ApJ*, **448**, 17, 1995.
50. Eisenstein, D. J., & Loeb, A., “Origin of Quasar Progenitors from the Collapse of Low-Spin Cosmological Perturbations,” *ApJ*, **443**, 11, 1995.
49. Eisenstein, D. J., & Loeb, A., “An Analytical Model for the Triaxial Collapse of Cosmological Perturbations,” *ApJ*, **439**, 520, 1995.

48. Loeb, A., & Mao, S., 1994, "Evidence From Gravitational Lensing for a Non-Thermal Pressure Support In the Cluster of Galaxies Abell 2218," *ApJ*, **435**, L109, 1994.
47. Loeb, A., & Rasio, F.A., "Collapse of Primordial Gas Clouds and the Formation of Quasar Black Holes," *ApJ*, **432**, 52, 1994.
46. Narayan, R., Loeb, A., & Kumar, P., "Causality in Strong Shear Flows," *ApJ*, **431**, 359, 1994.
45. Woods, E. & Loeb, A., "Empirical Constraints on Cosmological Gamma-ray Bursts," *ApJ*, **425**, L63, 1994.
44. Thoul, A. A., Bahcall, J. N., & Loeb, A., "Element Diffusion in the Solar Interior," *ApJ*, **421**, 828, 1994.
43. Umemura, M., Fukushige, T. Makino, J., Ebisuzaki, T., Sugimoto, D., Turner, E. L., & Loeb, A., "Smooth Particle Hydrodynamics on GRAPE-1," *Publ. Astron. Soc. Jap.*, **45**, 311, 1993.
42. Umemura, M., Loeb, A., & Turner, E.L., "Early Cosmic Formation of Massive Black Holes," *ApJ*, **419**, 459, 1993.
41. Loeb, A., "Are Gamma-Ray Bursts at Cosmological Distances Optically-Thin?," *Phys. Rev. D*, **48**, 3419, 1993.
40. Loeb, A., "Finding Proto-Quasars At High Redshifts," *ApJ*, **404**, L37, 1993.
39. Dar, A., Laor, A., Loeb, A., "Constraints on the Cosmic Rays in the Small Magellanic Cloud," *Phys. Rev. Lett.*, **71**, 3394, 1993.
38. Loeb, A., "Cosmological Formation of Quasar Black Holes," *ApJ*, **403**, 542, 1993.
37. Loeb, A. & Ostriker, J. P., "Production of a Soft Cosmic x-ray Background During Structure Formation in The Intergalactic Medium," unpublished, Institute for Advanced Study Preprint IASSNS-AST/92, 1992.
36. Gould, A. & Loeb, A., "Discovering Planetary Systems Through Gravitational Microlenses," *ApJ*, **396**, 104, 1992.

35. Richstone, D., Loeb, A., & Turner, E. L., "A Lower Limit on the Cosmic Mean Density From the Ages of Clusters of Galaxies," *ApJ*, **393**, 477, 1992.
34. Loeb, A. & Laor, A., "Accretion Flows Near Black Holes Mediated By Radiative Viscosity," *ApJ*, **384**, 115, 1992.
33. Kulsrud, R., & Loeb, A. "Dynamics and Gravitational Interaction of Waves in Non-uniform Media," *Phys. Rev. D*, **45**, 525, 1992.
32. Loeb, A., McKee, C. F., & Lahav, O., "Unsaturated Comptonization of Isotropic Photon Spectra by Relativistic Electrons," *ApJ*, **374**, 44, 1991.
31. Loeb, A., "The Diffuse X-ray Background and the Intergalactic Medium," in *After the first three minutes*, Eds. S. Holt et al., AIP Proc. 222, (New-York, 1991), pp. 329-338.
30. Loeb, A. & Starkman, G. D., "A Detector For the Cosmic Neutrino Background," *Nucl. Phys. B, Proc. Suppl.*, **19**, 241, 1990.
29. Daly, R., & Loeb, A., "A Possible Origin of Galactic Magnetic Fields," *ApJ*, **364**, 451, 1990.
28. Bahcall, J. N., & Loeb, A., "Element Diffusion in Stellar Interiors," *ApJ*, **360**, 267, 1990.
27. Loeb, A., "Bound Neutrino Sphere and Spontaneous Neutrino Pair Creation in Cold Neutron Stars," *Phys. Rev. Lett.*, **64**, 115, 1989.
26. Lahav, O., Loeb, A., & McKee, C. F., "Constraints on a Hot Intergalactic Medium From the X-Ray and Submillimeter Backgrounds," *ApJ*, **349**, L9, 1989.
25. Loeb, A. & Stodolsky, L., "Relativistic Spin Relaxation in Stochastic Electromagnetic Fields," *Phys. Rev. D*, **40**, 3520, 1989.
24. Quashnock, J., Loeb, A., & Spergel, D.N., "Magnetic Field Generation During the Cosmological QCD Phase Transition," *ApJ*, **344**, L49, 1989.
23. Loeb, A., "Collisional Incoherence in Neutrino Line Emission," *Phys., Rev. D*, **39**, 1009, 1989.

22. Loeb, A., Bahcall, J. N., & Milgrom, M., "The Magnitude of ^3He Diffusion in the Sun," *ApJ*, **341**, 1108, 1989.
21. Dar, A., Loeb, A., & Nussinov, S., "Could Unstable Relic Particles Distort the Microwave Background Radiation?," *ApJ*, **338**, L41, 1989.
20. Kanter, M., Michael, G., Kaplan, Z., & Loeb, A., "Inductive Programmed Generator for Electrothermal Launchers," *IEEE Trans. on Magnetics*, **25**, 1988.
19. Spector, N., Kaplan, Z., Loeb, A., Brill, B., & Levinson, J., "Confined High Pressure Discharge: Experiments," *IEEE Trans. on Magnetics*, **25**, 538, 1988.
18. Loeb, A. & Kaplan, Z., "A Theoretical Model for the Physical Processes in the Confined High Pressure Discharge in Electrothermal Launchers," *IEEE Trans. on Magnetics*, **25**, 342, 1989.
17. Levinson, J., Spector, N., Appelbaum, G., Loeb, A., Kaplan, Z., & Arad, B., "Velocity Measurements of Dense Plasma Jets Produced in Capillary Discharges," *J. Phys. D*, 1988.
16. Spector, N., Levinson, Y., Loeb, A., & Kaplan, Z., "Spectroscopic Diagnostics of the Characteristics of an Electrothermal Free Jet Plasma," *J. Phys. D*, 1988.
15. Loeb, A., "The Electromagnetic Characteristics of the Dynamics of a Self-gravitating Quasi-neutral Plasma," *Phys. Rev. D*, **37**, 3484, 1988.
14. Eliezer, S., & Loeb, A., "The Use of Magnetic Fields in Laser Produced Plasmas for Free Electron Laser and Acceleration of Particles," in *Advanced Accelerator Concepts*, ed. F. E. Mills (AIP: New York), **156**, 170, 1987.
13. Loeb, A., & Friedland, L., "The Nonlinear Dynamics of Dense Electron Beams in the Autoresonance Laser Accelerator," *Phys. Lett. A*, **129**, 329, 1988.
12. Eliezer, S., & Loeb, A., "A Gamma-ray Laser in a Positronium Medium," *Laser Interactions and Related Plasma Phenomena*, eds. H. Hora and G. H. Miley, **8** (1988).

11. Spergel, D. N., Piran, T., Loeb, A., Goodman, J., & Bahcall, J. N., "A Model for Neutrino Cooling of the LMC Supernova," *Science*, **237**, 1471, 1987.
10. Loeb, A., Friedland, L., & Eliezer, S. "Acceleration of Electron Positron Plasmas to High Energies," *IEEE Trans. on Plasma Sci.*, **PS-15**, 238, 1987.
9. Loeb, A., Friedland, L., & Eliezer, S. "Autoresonance Laser Acceleration of Guided 'Quasi-neutral' Electron Positron Beams," *Phys. Rev. A*, **35**, 1692, 1987.
8. Loeb, A. (with 12 co-authors), "Double Layers in Laser Produced Plasmas," *Laser Interactions and Related Plasma Phenomena*, eds. H. Hora and G. H. Miley, **7**, 329 (1986).
7. Loeb, A. (with 12 co-authors), "The Evolution of Strong Shock Waves Produced by a Trapezoidal Laser Pulse," *Laser Interactions and Related Plasma Phenomena*, eds. H. Hora and G. H. Miley, **7**, 279 (1986).
6. Loeb, A., & Eliezer, S., "Free Electron Laser and Laser Electron Accelerations Based on the Mega-Gauss Magnetic Fields in Laser Produced Plasmas," *Phys. Rev. Lett.*, **56**, 2252, 1986.
5. Eliezer, S., & Loeb, A., "Two-dimensional Analytical Considerations of large Magnetic and Electric Fields in Laser Produced Plasmas," *Laser and Particle Beams*, **4**, 249, 1986.
4. Loeb, A., & Friedland, L., "Autoresonance Laser Accelerator," *Phys. Rev. A*, **33**, 1828, 1986.
3. Loeb, A., Loebenstein, M., Ludmirsky, A., Eliezer, S., Maman, S., & Gazit, Y. "Point Explosion Simulation by Fast Spark Discharges," *J. Ap. Phys.*, **57**, 2501, 1985.
2. Zigler, A., Ludmirsky, A., Loeb, A., Borowitz, J. L., Eliezer, S., Givon, M., Gazit, Y., Jackel, S., Krumbein, A. D., Rosenblum, M., & Arad, B., "Deposition of Energy Outside the Focal Spot as observed in the Rear Surface of Laser Irradiated Targets," *Phys. Lett.*, **112A**, 223, 1985.

1. Loeb, A., & Eliezer, S., “An Analytical Model for Creation and Decay of Strong Shock Waves Caused by a Trapezoidal Laser Pulse,” Phys. Fluids, **28**, 1196, 1985.

Patent

“A Method and Apparatus for Accelerating Masses to High Velocities”, by Z. Kaplan, A. Loeb & G. Engler, 1988.

“Low Specific Mass Space Power System”, by T.F. Sheerin, & A. Loeb, 2020.