

Curriculum Vitae, Updated 02/28/2018
Brian David Metzger

Columbia University
Department of Physics
909 Pupin Hall, MC 5217
New York, NY 10027

Email: bmetzger@phys.columbia.edu
Web: <http://www.columbia.edu/~bdm2129>
Phone: (212) 854-9702
Fax: (212) 854-3379

ACADEMIC POSITIONS

01/18– Associate Professor of Physics, Columbia University
01/13–01/18 Assistant Professor of Physics, Columbia University
09/12–12/12 Lyman Spitzer Jr. Fellow, Princeton University
09/09–09/12 NASA Einstein Fellow, Princeton University
05/09–09/09 Postdoctoral Researcher, Department of Astronomy, UC Berkeley

EDUCATION

08/03–05/09 University of California at Berkeley
M.A. & Ph.D. in Physics (Thesis Adviser: Prof. Eliot Quataert)
Dissertation: “Theoretical Models of Gamma-Ray Burst Central Engines”
08/99–05/03 The University of Iowa
B.S. in Physics, Astronomy, & Mathematics (Highest Distinction)

RESEARCH INTERESTS:

My research is in theoretical high energy astrophysics, on topics including gamma-ray bursts, novae, supernovae, accretion processes, shocks, compact objects, nucleosynthesis (astrophysical origin of the elements), and the electromagnetic counterparts of gravitational wave sources. My research utilizes both analytic calculations and numerical simulations, with the latter often pursued in collaboration with students and postdocs.

FELLOWSHIPS and AWARDS

2018 Charles and Thomas Lauritsen Honorary Lecture, Caltech
2018–20 Visiting Fellow, Perimeter Institute
2016 Research Science Corporation Scialog Fellow
2014–16 Alfred P. Sloan Research Fellowship
2009–12 NASA Einstein Fellowship (*Astrophysical Sciences, Princeton*)
04/12 Rand Honorary Public Lecture (~ 200 attendees; *Burlington, IA*)
11/09 AAS High Energy Astrophysics Division Dissertation Prize
09/09 NASA Hubble Fellowship
09/09 Lyman Spitzer Jr. Fellowship (*Astrophysical Sciences, Princeton*)
05/09 Mary Elizabeth Uhl Prize (*Astronomy Department, UC Berkeley*)
2005–08 NASA Graduate Student Research Fellowship
05/03 James A. Van Allen Award (*Department of Physics, U Iowa*)
05/03 Callen Prize for Highest Promise in Graduate Research (*U Iowa*)
05/03 Rhodes/Dunlap Collegiate Scholarship (*U Iowa*)
05/02 William R. Savage Award (*Department of Physics, U Iowa*)
05/02 Phi Beta Kappa Honor Society

ADVISING EXPERIENCE

Undergraduates: Justin Ripley, Columbia (01/13–01/14; 1 publication)
Aaron Kennon, Columbia (03/15–09/17)
Charles Zivancev, Columbia (06/15–06/15; 1 publication)
Miguel Martinez, Columbia (09/17–)

Graduate Students: Siva Darbha, UC Berkeley (01/09–05/10; 2 publications)
Konstantin Bochkarev, Princeton (06/11–01/12; 1 publication)
Andrey Vlasov, Columbia (05/13–; 4 publications)
Aleksey Gerenezov, Columbia (09/13–; 4 publications)
Ben Margalit, Columbia (11/14–; 7 publications)
Dhruv Desai, Columbia (04/16–)
Thomas Finzell, Michigan State (10/14–2/15; 4 publications)
Andrea Derdzinski, Columbia (09/15–; 1 publications)
Jonas Lippuner, Caltech (05/16–; 2 publications)

Postdoctoral: Dr. Nicholas Stone (09/13–), NASA Einstein Fellow
Dr. Daniel Siegel (11/15–), NASA Einstein Fellow
Dr. Jennifer Barnes (09/17–), NASA Einstein Fellow
Dr. Elad Steinberg (09/17–)
Dr. Eric Coughlin (09/19–), NASA Einstein Fellow

DEPARTMENTAL SERVICE

Committee Assignments, Columbia Department of Physics

2017 Colloquium (2017)
2017 Graduate (2017)
2016 Qualifying Examination
2014,15,17 Graduate Admissions

Representative, Columbia Department of Physics

03/15 Graduate Student Open House, Astrophysics Representative
10/14 Grad School Applications Panel Session for Physics Majors
2014,17 Physics Orientation, Astrophysics Representative
2014– **Thesis Defense Committee:** Rachel Carr, Melania Nynka
David Kaleko (Columbia), Gilad Svirski (Tel Aviv University)
Daniel Siegel (Bonn), Jonas Lippuner (Caltech), Phil Cowperthwaite (Harvard)
2013– Co-Organizer (w/ A. Beloborodov), High Energy Astrophysics Seminar

TEACHING EXPERIENCE

- W3008: Electricity, Magnetism & Optics (Sp 13, Sp 14, Sp 15)
- W3072: Senior Seminar (Sp 15)
- W3019: Mathematical Methods of Physics (Fa 15, Fa 16, Fa 17)
- W1402: Intro to Electricity, Magnetism & Optics (Sp 16, Sp 17, Sp 18)

AWARDS and GRANTS as PI

16. “The Role of Shocks in the Appearance and Aftermath of Stellar Mergers and Type II_n Supernovae”, HST Guest Investigator Program, 10/01/17–09/30/20. **Award:** \$72K.
15. “Dynamics and Rates of Tidal Disruption Events”, NASA Astrophysics Theory Research Program, 09/01/17–08/31/20. **Award:** \$370.4K.
14. “Enhanced rates of tidal disruptions in E+A galaxies: resolving the central dynamics of post-starburst galactic nuclei with HST observations”, HST Guest Investigator Program, 03/01/17–02/29/18. **Award:** \$17.7K.
13. “Particle Acceleration and Non-Thermal Emission in Gamma-Ray Novae”, NASA Fermi Guest Investigator Program, 10/01/16–09/30/17. **Award:** \$45K.
12. “Testing the Magnetar Model for Superluminous Supernovae with Swift”, Swift Guest Investigator Program (NNX16AN77G), 09/01/16–08/31/17. **Award:** \$42K.
11. “Signatures of Shocks and Particle Acceleration in Novae”, NSF Astrophysics Theory (AST-1615084), 07/01/16–06/30/19. **Award:** \$342.7K.
10. “Bringing Novae into the 21st Century,” Research Corporation for Scientific Advancement (PG007637), 01/01/16–12/31/16. **Award:** \$33.3K.
9. “Probing Particle Acceleration at Non-Relativistic Shocks with Gamma-Ray Novae”, NASA Fermi Guest Investigator Program (NNX15AU77G), 09/01/15–08/31/16. **Award:** \$60K.
8. “Nuclear Burning in Collapsar Accretion Disks and the Origin of Gamma-Ray Burst Supernovae,” Swift Guest Researcher Program (NNX15AR47G), 10/01/15–09/30/16. **Award:** \$42.9K.
7. “Accretion Disk Outflows from Compact Object Mergers”, NASA Astrophysics Theory Research Program, 10/01/15–09/30/18. **Award:** \$436.7K.
6. “Gamma-Ray Novae as Probes of Shock Acceleration”, NASA Fermi Guest Investigator Program (NNX14AQ68G), 09/01/14–08/31/15. **Award:** \$99K.
5. “Testing the Millisecond Magnetar Model for GRBs and SLSNe” NSF Astrophysics Theory (AST-1410950), 07/15/14–06/30/17. **Award:** \$381.2K.
4. Alfred P. Sloan Research Fellowship, 09/01/14-08/31/16. **Award:** \$50K.
Custodial PI for Columbia Postdoctoral Fellows:
3. “The transient electromagnetic sky from binary neutron star mergers”, NASA Einstein Fellowship of Daniel Siegel (SAO PF6-170159), 08/01/16–07/31/19. **Award:** \$340K.

2. “Stellar Dynamics Near Supermassive Black Holes”, NASA Einstein Fellowship of Nicholas Stone (SAO PF5-160145), 09/01/15–08/31/18. **Award:** \$340K.
1. “Transient Modeling for the Multi-Messenger Era”, NASA Einstein Fellowship of Jennifer Barnes (SAO PF7-180162), 09/01/15–08/31/18. **Award:** \$340K.

Submitted

122. **B. D. Metzger**, P. Beniamini, D. Giannios, “Effects of Fall-Back Accretion on Proto-Magnetar Outflows in Gamma-Ray Bursts and Superluminous Supernovae”, ApJ submitted
121. D. M. Siegel, **B. D. Metzger**, “Three-dimensional GRMHD simulations of neutrino-cooled accretion disks from neutron star mergers”, ApJ submitted
120. N. Stone, A. Generozov, E. Vasiliev, **B. D. Metzger**, “The Delay Time Distribution of Tidal Disruption Flares”, ApJ submitted
119. R. Margutti, R. Chornock, **B. D. Metzger**, et al., 2017 “Results from a systematic survey of X-ray emission from Hydrogen-poor Superluminous Supernovae”, ApJ submitted
118. **B. D. Metzger**, “Welcome to the Multi-Messenger Era! Lessons from a Neutron Star Merger and the Landscape Ahead”, archive-only submission (arXiv:1710.05931)

2018

117. J. Farihi, L. Fossati, P. Wheatley, **B. D. Metzger**, “Magnetism, X-rays and accretion rates in WD 1145+017 and other polluted white dwarf systems”, 2018, MNRAS, 474, 947
116. T. Finzell, L. Chomiuk, **B. D. Metzger**, et al., “A Detailed Observational Analysis of V1324 Sco, the Most Gamma-Ray-luminous Classical Nova to Date”, 2018, ApJ, 852, 108
115. **B. D. Metzger**, T. A. Thompson, E. Quataert, E., “A magnetar origin for the kilonova ejecta in GW170817”, ApJ accepted
114. R. Margutti, K. Alexander, X. Xie, L. Sironi, **B. D. Metzger**, et al., “The Binary Neutron Star event LIGO/VIRGO GW170817 a hundred and sixty days after merger: synchrotron emission across the electromagnetic spectrum”, ApJ accepted.
113. I. Vurm, **B. D. Metzger**, “High-energy emission from non-relativistic radiative shocks: application to gamma-ray novae”, 2018, ApJ, 852, 62

2017

112. K. Fang, **B. D. Metzger**, “High-energy Neutrinos from Millisecond Magnetars Formed from the Merger of Binary Neutron Stars”, 2017, ApJ, 849, 153
111. O. Pejchta; **B. D. Metzger**, J. Tyles, K. Tomida, “Pre-explosion Spiral Mass Loss of a Binary Star Merger”, 2017, ApJ, 850, 59
110. Siegel, D. M.; Metzger, B. D., “Three-Dimensional General-Relativistic Magnetohydrodynamic Simulations of Remnant Accretion Disks from Neutron Star Mergers: Outflows and r-Process Nucleosynthesis”, 2017, 119, 1102

109. A. Villar, J. Guillochon, E. Berger, **B. D. Metzger**, et al., “The Combined Ultraviolet, Optical, and Near-infrared Light Curves of the Kilonova Associated with the Binary Neutron Star Merger GW170817: Unified Data Set, Analytic Models, and Physical Implications”, 2017, *ApJ*, 851, 21
108. P. Cowperthwaite, ..., **B. D. Metzger**, et al., “An Empirical Study of Contamination in Deep, Rapid, and Wide-Field Optical Follow-Up of Gravitational Wave Events”, *ApJ*, 851, 21
107. N. C. Stone, A. Generozov, E. Vasiliev, **B. D. Metzger**, 2017, “The Delay Time Distribution of Tidal Disruption Flares”, *MNRAS* submitted
106. I. Bartos, Z. Haiman, Z. Marka, **B. D. Metzger**, N. Stone, S. Marka, ”Gravitational-wave localization alone can probe origin of stellar-mass black hole mergers”, 2017, *Nature Communications*, 8, 831
105. B. Margalit, **B. D. Metzger** et al., 2018, “The GRB-SLSN Connection: mis-aligned magnetars, weak jet emergence, and observational signatures”, *MNRAS*, 13M
104. B. Margalit, **B. D. Metzger**, 2017, “Constraining the Maximum Mass of Neutron Stars From Multi-Messenger Observations of GW170817”, *ApJL*, 850L, 19
103. G. Brown, A. Levan, ..., **B. D. Metzger**, “Late-time observations of the relativistic tidal disruption flare candidate Swift J1112.2-8238”, 2017, *MNRAS*, 472, 4496
102. P. Beniamini, D. Giannios, **B. D. Metzger**, “Constraints on millisecond magnetars as the engines of prompt emission in gamma-ray bursts”, 2017, *MNRAS*, 472, 3058
101. **B. D. Metzger**, N. C. Stone, “Periodic accretion-powered flares from colliding EMRIs as TDE Imposters”, 2017, *ApJ*, 844, 75
100. D. Kasen, **B. D. Metzger**, J. Barnes, E. Quataert, E. Ramirez-Ruiz, “Origin of the heavy elements in binary neutron-star mergers from a gravitational wave event”, 2017, *Nature*, 551, 80
99. W. Fong, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. VIII. A Comparison to Cosmological Short-Duration Gamma-Ray Bursts”, 2017, *ApJL*, 848, 23
98. P. Blanchard, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. VII. Properties of the Host Galaxy and Constraints on the Merger Timescale”, 2017, *ApJL*, 848, 22
97. K. Alexander, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. VI. Radio Constraints on a Relativistic Jet and Predictions for Late-time Emission from the Kilonova Ejecta”, 2017, *ApJL*, 848, 21
96. R. Margutti, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. V. Rising X-Ray Emission from an Off-axis Jet”, 2017, *ApJL*, 848, 20

95. R. Chornock, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. V. Rising X-Ray Emission from an Off-axis Jet”, 2017, ApJL, 848, 19
94. P. Cowperthwaite, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. I. Discovery of the Optical Counterpart Using the Dark Energy Camera”, 2017, ApJL, 848, 16
93. B. P. Abbott, ..., **B. D. Metzger**, et al., “Multi-messenger Observations of a Binary Neutron Star Merger”, 2017, ApJ, 848, 12
92. M. Nicholl, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. III. Optical and UV Spectra of a Blue Kilonova from Fast Polar Ejecta”, 2017, ApJL, 848, 18
91. M. Soares-Santos, ..., **B. D. Metzger**, et al., “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. I. Dark Energy Camera Discovery of the Optical Counterpart”, 2017, accepted ApJL
90. B. P. Abbott, ..., **B. D. Metzger**, et al., “A gravitational-wave standard siren measurement of the Hubble constant”, 2017, Nature, 551, 85
89. **B. D. Metzger**, O. Pejcha, “Shock-powered light curves of luminous red novae as signatures of pre-dynamical mass loss in stellar mergers”, 2017, MNRAS, 471, 3200
88. K. L. Li, **B. D. Metzger**, et al., “A nova outburst powered by shocks”, 2017, Nature Astronomy, 1, 697
87. J. Lippuner, ..., **B. D. Metzger** et al., “Signatures of hypermassive neutron star lifetimes on r-process nucleosynthesis in the disk ejecta from neutron star mergers”, 2017, MNRAS, 472, 904
86. A. Villar, E. Berger, **B. D. Metzger**, J. Guillochon, “Theoretical Models of Optical Transients. I. A Broad Exploration of the Duration-Luminosity Phase Space”, 2017, ApJ, 849, 70
85. M. Nicholl, ..., **B. D. Metzger**, “Empirical constraints on the origin of fast radio bursts: volumetric rates and host galaxy demographics as a test of millisecond magnetar connection”, 2017, ApJ, 843, 84
84. **B. D. Metzger**, “Kilonovae”, 2017, Living Reviews of Relativity, 20, 3
83. **B. D. Metzger**, K. J. Shen, N. C. Stone, “Secular Dimming of KIC 8462852 Following its Consumption of a Planet”, 2017, MNRAS, 468, 4399
82. **B. D. Metzger**, E. Berger, B. Margalit, “Millisecond Magnetar Birth Connects FRB 121102 to Superluminous Supernovae and Long Duration Gamma-ray Bursts”, 2017, ApJ, 841, 14
81. A. Vlasov, **B. D. Metzger**, J. Lippuner, L. F. Roberts, T. A. Thompson, “Neutrino-heated winds from millisecond proto-magnetars as sources of the weak r-process”, 2017, MNRAS, 468, 1522

80. A. Derdzinski, **B. D. Metzger**, D. Lazzati, “Radiative shocks create environments for dust formation in novae”, 2017, MNRAS, 469, 1314
79. N. Stone, **B. D. Metzger**, Z. Haiman, “Assisted Inspirals of Stellar Mass Black Holes Embedded in AGN Disks: Solving the Final AU Problem”, 2017, MNRAS, 464, 946
78. M. Nicholl, E. Berger, R. Margutti, P. Blanchard, D. Milisavljevic, P. Challis, **B. D. Metzger**, R. Chornock, “An ultraviolet excess in the superluminous supernova Gaia16apd reveals a powerful central engine”, 2017, ApJ, 835, 8
77. B. Margalit, **B. D. Metzger**, “Merger of a White Dwarf-Neutron Star Binary to 10^{29} Carat Diamonds: Origin of the Pulsar Planets”, 2017, MNRAS, 465, 2790
76. A. Generozov, P. Mimica, **B. D. Metzger**, N. Stone, G. Giannios, M. A. Aloy, “The influence of circumnuclear environment on the radio emission from TDE jets”, 2017, MNRAS, 464, 2481

2016

75. R. Margutti, **B. D. Metzger**, et al., “X-rays from the location of the Double-humped Transient ASASSN-15lh”, 2016, ApJ, 836, 25
74. M. Wu, R. Fernandez, G. Martinez-Pinedo, **B. D. Metzger**, “Production of all r-process nuclides by black hole accretion disk outflows from neutron star mergers”, 2016, MNRAS, 463, 2323
73. W. Fong, **B. D. Metzger**, E. Berger, F. Ozel, “Radio Constraints on Long-Lived Magnetar Remnants in Short Gamma-Ray Bursts”, 2016, ApJ, 831, 141
72. T. Moriya, **B. D. Metzger**, S. Blinnikov, “Supernovae powered by magnetars that transform into black holes”, 2016, ApJ, 833, 64
71. P. Cowperthwaite, E. Berger, M. Soares-Santos, ..., **B. D. Metzger**, et al. , “A DECam Search for an Optical Counterpart to the LIGO Gravitational Wave Event GW151226,” 2016, ApJL, 826, L29
70. A. Vlasov, **B. D. Metzger**, I. Vurm, ”Shocks in nova outflows. II. Synchrotron radio emission”, 2016, MNRAS, 463, 394
69. **B. D. Metzger**, C. Zivancev, ”Pair Fireball Precursors of Neutron Star Mergers”, 2016, MNRAS, 461, 4435
68. O. Pejcha, **B. D. Metzger**, Kengo Tomida, “Binary Stellar Mergers with Marginally-Bound Ejecta: Excretion Disks, Inflated Envelopes, Outflows, and their Luminous Transients”, 2016, MNRAS, 461, 2527
67. M. Nicholl, E. Berger, S. Smartt, ... , **B. D. Metzger**, ..., ”SN 2015bn: a detailed multi-wavelength view of a nearby superluminous supernova”, 2016, ApJ, 826, 39
66. Levan, A. J., Tanvir, N. R., Brown, G. C., **B. D. Metzger**, et al. , ”Late Time Multi-wavelength Observations of Swift J1644+5734: A Luminous Optical/IR Bump and Quiescent X-Ray Emission”, 2016, ApJ, 819, 51

65. Abbott, B. P., Abbott, R., Abbott, T. D., ..., **B. D. Metzger**, et al. , "Localization and broadband follow-up of the gravitational-wave transient GW150914", 2016, ApJL, 826, L13
64. Annis, J., Soares-Santos, M., Berger, E., ..., **B. D. Metzger**, et al., "A Dark Energy Camera Search for Missing Supergiants in the LMC After the Advanced LIGO Gravitational Wave Event GW150914", 2016, ApJL, 823, L34,
63. A. Drago, A. Lavagno, **B. D. Metzger** & G. Pagliara, "Quark deconfinement and the duration of short gamma-ray bursts", 2016, PRD, 93, 103001
62. Soares-Santos, M., Kessler, R., Berger, E., ..., **B. D. Metzger**, et al. "A Dark Energy Camera Search for an Optical Counterpart to the First Advanced LIGO Gravitational Wave Event GW150914", 2016, ApJL, 826, L13
61. B. Margalit, **B. D. Metzger** "Time dependent models of accretion disks with nuclear burning following the tidal disruption of a white dwarf by a neutron star", 2016, MNRAS, 461, 1154
60. **B. D. Metzger**, D. Caprioli, I. Vurm, A. M. Beloborodov, I. Bartos, A. Vlasov, "Novae as Tevatrons: prospects for CTA and IceCube", 2016, MNRAS, 457, 1786
59. Fernández, R., & **B. D. Metzger** "Electromagnetic Signatures of Neutron Star Mergers in the Advanced LIGO Era", 2016, Annual Review of Nuclear and Particle Science, 66
58. J.H .Weston, J. L. Sokoloski, **B. D. Metzger**, et al. "Non-thermal radio emission from colliding flows in classical nova V1723 Aql", 2016, MNRAS, 457, 887
57. O. Pejcha, **B. D. Metzger**, Kengo Tomida, "Cool and Luminous Transients from Mass Losing Binary Star", 2016, MNRAS, 455, 4351
56. S. van Velzen, G. Anderson, N. Stone, M. Fraser, T. Wevers, **B. D. Metzger**, et al., "A radio jet from the optical and x-ray bright stellar tidal disruption flare ASASSN-14li", 2016, Science, 351, 62
55. D. Kasen, **B. D. Metzger**, L. Bildsten, "Magnetar Driven Shock Emission and Double Peaked Supernova Light Curves", 2016, ApJ, 821, 36
54. **B. D. Metzger**, N. Stone, 2016 "A Bright Year for Tidal Disruptions", MNRAS, 461, 948
53. N. Stone, **B. D. Metzger**, "Rates of Stellar Tidal Disruption Events as Probes of the Supermassive Black Hole Mass Function", 2016, MNRAS, 455, 859

2015

52. **B. D. Metzger**, B. Margalit, D. Kasen, E. Quataert, "The Diversity of Transients from Magnetar Birth in Core Collapse Supernovae", 2015, MNRAS, 454, 3311
51. B. Margalit, **B. D. Metzger**, A. Beloborodov, "Does the Collapse of a Supramassive Neutron Star Leave a Debris Disk?", 2015, Physical Review Letters, 115, 171101

50. A. Generozov, N. Stone, **B. D. Metzger**, “Circumnuclear Media and Accretion Rates of Quiescent Supermassive Black Holes”, 2015, MNRAS, 453, 775
49. **B. D. Metzger**, P. E. G. Williams, E. Berger, “Extragalactic Transients in the Era of Wide-Field Radio Surveys. I. Detection Rates and Light Curve Characteristics”, 2015, ApJ, 806, 224
48. **B. D. Metzger**, T. Finzell, I. Vurm, R. Hascoet, A. M. Beloborodov, L. Chomiuk, “Gamma-ray Novae as Probes of Relativistic Particle Acceleration at Non-relativistic Shocks”, 2015, MNRAS, 450, 2739
47. P. Mimica, D. Giannios, **B. D. Metzger**, M. A. Aloy, “The radio afterglow of Swift J1644+57 reveals a powerful jet with fast core and slow sheath”, 2015, MNRAS, 450, 2824
46. D. Kasen, R. Fernandez, **B. D. Metzger**, “Kilonova Light Curves from the Disk Wind Outflows of Compact Object Mergers”, 2015, MNRAS, 446, 750
45. R. Fernandez, D. Kasen, **B. D. Metzger**, “Outflows from Accretion Disks Formed in Neutron Star Mergers: Effect of Black Hole Spin”, 2015, MNRAS, 446, 750
44. **B. D. Metzger**, A. Bauswein, S. Goriely, D. Kasen, “Neutron-powered Precursors of Kilonovae”, 2015, MNRAS, 446, 1115
43. N. Stone, **B. D. Metzger**, A. Loeb “Evaporation and Accretion of Extrasolar Comets Following White Dwarf Kicks”, 2015, MNRAS, 448, 188

2014

42. A. Vlasov, **B. D. Metzger**, T. A. Thompson, “Neutrino-Heated Winds from Rotating Proto-Magnetars”, 2014, MNRAS, 444, 3537
41. **B. D. Metzger**, R. Hascoet, I. Vurm, A. Beloborodov, L. Chomiuk, J. L. Sokoloski, T. Nelson, “Shocks in Nova Outflows. I. Thermal Emission”, 2014, MNRAS, 442, 713
40. **B. D. Metzger**, R. Fernandez, “Red or Blue? A Kilonova Imprint of the Delay Until Black Hole Formation Following a Neutron Star Merger”, 2014, MNRAS, 441, 3444
39. **B. D. Metzger**, A. L. Piro, “Optical and X-ray emission from stable millisecond magnetars formed from the merger of binary neutron stars”, 2014, MNRAS, 439, 3916
38. J. L. Ripley, **B. D. Metzger**, A. Arcones, G. Martinez-Pinedo, “X-ray Decay Lines from Heavy Nuclei in Supernova Remnants as a Probe of the r-Process Origin and the Birth Periods of Magnetars”, 2014, MNRAS, 438, 3243
37. W. Fong, E. Berger, **B. D. Metzger**, et al., “Short GRB 130603B: Discovery of a jet break in the optical and radio afterglows, and a mysterious late-time X-ray excess”, 2014, ApJ, 780, 118
36. A. Tchekhovskoy, **B. D. Metzger**, D. Giannios, L. Zoltan-Kelly, “Swift J1644+57 Gone MAD: the Case for Dynamically-Important Magnetic Flux Threading the Black Hole in a Jetted Tidal Disruption Event”, 2014, MNRAS, 437, 2744

2013

35. **B. D. Metzger**, G. C. Bower, “Constraints on long-lived remnants of neutron star binary mergers from late-time radio observations of short duration gamma-ray bursts”, 2013, MNRAS, 437, 1821
34. **B. D. Metzger**, I. Vurm, R. Hascoet, & A. Beloborodov, “Ionization Break-Out from Millisecond Pulsar Wind Nebula: an X-ray Probe of the Origin of Superluminous Supernovae”, 2013, MNRAS, 437, 703
33. A. J. Levan, A. M. Read, **B. D. Metzger**, P. J. Wheatley, & N. R. Tanvir “Superluminous X-rays from a Superluminous Supernova”, 2013, ApJ, 771, 136
32. R. Fernandez, **B. D. Metzger**, ”Delayed Outflows from Black Hole Accretion Tori Following Neutron Star Binary Coalescence”, 2013, MNRAS, 435, 502
31. A. Rowlinson, P. T. O’Brien, **B. D. Metzger**, N. R. Tanvir, A. J. Levan, “Signatures of Magnetar Central Engines in Short GRB Lightcurves”, 2013, MNRAS, 430, 1061
30. **B. D. Metzger**, D. L. Kaplan, E. Berger, “Comparing H- α and HI Surveys as Means to a Complete Local Galaxy Catalog in the Advanced LIGO/Virgo Era,” 2013, ApJ, 764, 149
29. G. Bower, **B. D. Metzger**, S. B. Cenko, J. Silverman, J. Bloom, “Late Time Radio Emission from X-ray Selected Tidal Disruption Events,” 2013, ApJ, 763, 84
28. R. Fernandez, **B. D. Metzger**, “Nuclear Dominated Accretion Flows in Two Dimensions. I. Torus Evolution with Parametric Microphysics,” 2013, ApJ, 763, 108

2012

27. **B. D. Metzger**, D. Giannios, D. S. Spiegel, “Optical and X-ray Transients from Planet-Star Mergers,” 2012, MNRAS, 425, 2778
26. **B. D. Metzger**, R. R. Rafikov, K. V. Bochkarev, “Global Models of Runaway Accretion in White Dwarf Debris Disks,” 2012, MNRAS, 423, 505
25. **B. D. Metzger**, D. Giannios, P. Mimica, “Afterglow Model for the Radio Emission from the Jetted Tidal Disruption Candidate *Swift* J1644+57,” 2012, MNRAS, 420, 3528
24. **B. D. Metzger** & E. Berger, “What is the Most Promising Electromagnetic Counterpart of a Neutron Star Binary Merger?,” 2012, ApJ, 746, 48
23. **B. D. Metzger**, “Nuclear Dominated Accretion and Subluminous SNe from the Merger of a White Dwarf with a Neutron Star or Black Hole,” 2012, MNRAS, 419, 827
22. N. Bucciantini, **B. D. Metzger**, T. A. Thompson, E. Quataert, “Short GRBs with Extended Emission from Magnetar Birth: Jet Formation and Collimation,” 2012, MNRAS, 419, 827

2011

21. J. S. Bloom, D. Giannios, **B. D. Metzger**, et al., “A Relativistic Jetted Outburst from a Massive Black Hole Fed by a Tidally Disrupted Star,” 2011, Science, 333, 203

20. D. Giannios & **B. D. Metzger**, “Radio Transients from Stellar Tidal Disruption by Massive Black Holes,” 2011, MNRAS, 416, 2102
19. **B. D. Metzger**, D. Giannios, S. Horiuchi, “Heavy Nuclei Synthesized in GRB Outflows as the Source of Ultra-High Energy Cosmic Rays,” 2011, MNRAS, 415, 2495
18. **B. D. Metzger**, D. Giannios, T. A. Thompson, N. Bucciantini, E. Quataert, “The Proto-Magnetar Model for Gamma-Ray Bursts,” 2011, MNRAS, 431, 2031
17. J. Nordhaus, S. Wellons, D. Spiegel, **B. D. Metzger**, E. G. Blackman, “Formation of High-Field Magnetic White Dwarfs from Common Envelopes,” 2011, Proceedings of the National Academy of Sciences, 108, 3135

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16. **B. D. Metzger**, “Relic Proto-Stellar Disks and the Origin of Luminous Circumstellar Interaction in Core Collapse Supernovae,” 2010, MNRAS, 409, 284
15. S. Darbha, **B. D. Metzger**, E. Quataert, D. Kasen, P. Nugent, R. Thomas, “Nickel-rich outflows produced by the accretion-induced collapse of white dwarfs: light curves and spectra,” 2010, MNRAS, 409, 846
14. **B. D. Metzger**, G. Martinez-Pinedo, S. Darbha, E. Quataert, A. Arcones, D. Kasen, R. Thomas, P. Nugent, I. Panov, N. Zinner, “Electromagnetic Counterparts of Compact Object Mergers Powered by the Radioactive Decay of R-Process Nuclei,” 2010, MNRAS, 406, 2650
13. H. B. Perets, ..., **B. D. Metzger**, et al. , “A Faint Type of Supernova from a White Dwarf with a Helium-Rich Companion,” 2010, Nature, 465, 7296
12. **B. D. Metzger**, A. Arcones, E. Quataert, G. Martinez-Pinedo, “Effects of r-process heating on fall-back accretion in compact object mergers,” 2010, MNRAS, 402, 2771

2009 and earlier

11. N. Bucciantini, E. Quataert, **B. D. Metzger**, T. A. Thompson, J. Arons, L. Del Zanna, “Magnetized Relativistic Jets and Long-Duration GRBs from Magnetar Spindown during Core-Collapse Supernovae,” 2009, MNRAS, 396, 2038
10. **B. D. Metzger**, A. L. Piro, & E. Quataert, “Nickel-rich outflows from accretion disks produced by the accretion-induced collapse of white dwarfs,” 2009, MNRAS, 396, 1659
9. **B. D. Metzger**, A. L. Piro, & E. Quataert, “Neutron-Rich Freeze-Out in Accretion Disks Formed from Compact Object Mergers,” 2009, MNRAS, 396, 304
8. D. A. Perley, **B. D. Metzger**, et al. , “GRB 080503: Implications of a Naked Short Gamma-Ray Burst Dominated by Extended Emission,” 2008, ApJ, 696, 1871,
7. **B. D. Metzger**, A. L. Piro, & E. Quataert, “Time Dependent Models of Accretion Disks Formed from Compact Object Mergers,” 2008, MNRAS, 390, 781
6. **B. D. Metzger**, T. A. Thompson, & E. Quataert, “On the Conditions for Neutron-Rich Gamma-Ray Burst Outflows,” 2008, ApJ, 676, 1130,

5. **B. D. Metzger**, E. Quataert, & T. A. Thompson, “Short Duration GRBs with Extended Emission from Proto-Magnetar Spin-Down,” 2008, MNRAS, 385, 1455
4. N. Bucciantini, E. Quataert, J. Arons, **B. D. Metzger**, & T. A. Thompson, “Relativistic Jets and Long-Duration Gamma-Ray Bursts from the Birth of Magnetars,” 2008, MNRAS, 383, L25
3. **B. D. Metzger**, T. A. Thompson, & E. Quataert, “Proto-Neutron Star Winds with Magnetic Fields and Rotation,” 2007, ApJ, 659, 561,
2. N. Bucciantini, E. Quataert, J. Arons, **B. D. Metzger**, & T. A. Thompson, “Magnetar-Driven Bubbles and the Origin of Collimated Outflows from Gamma-Ray Bursts,” 2007, MNRAS, 380, 1541
1. D. A. Frail, **B. D. Metzger**, E. Berger, S. R. Kulkarni, & S. A. Yost, “A Late-Time Flattening of Afterglow Light Curves,” 2004, ApJ, 600, 828

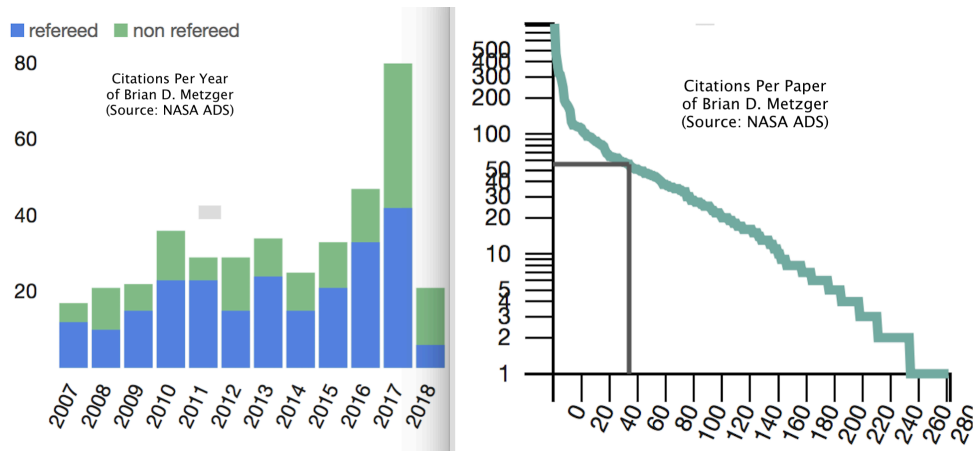


Figure 1: Journal articles by Brian D. Metzger. Reference: NASA ADS

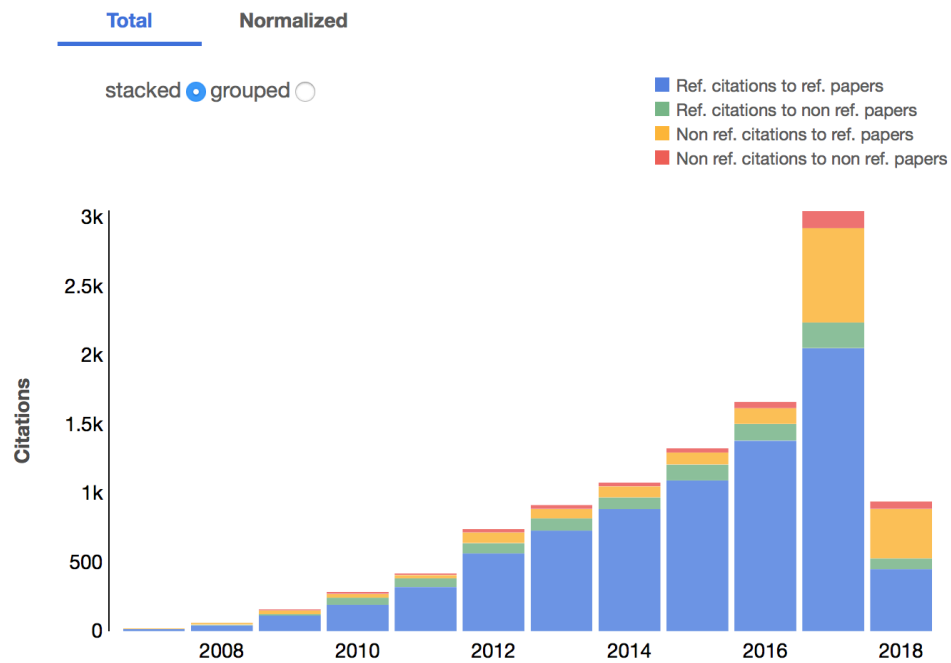


Figure 2: Citations to Journal Articles by Brian D. Metzger. Reference: NASA ADS

INVITED COLLOQUIA, SEMINARS

Colloquia:

Chicago (05/18), Caltech (04/18), Yale (03/18), MIT (03/18), Penn State (02/18),
Brookhaven National Lab (02/18), Rochester (12/17), Harvard ITC (10/17), Harvard CfA (03/17),
Guelph (03/17), Columbia (02/17), NASA GSFC (10/16), NRAO Socorro (04/16), U Virginia (02/16),
Stanford (01/16), Indiana (10/15), Purdue (10/15), UT Austin (05/15), RIT (03/15), UCLA (01/15)
Carnegie Observatories (11/14), McGill (09/14), Institute for Nuclear Theory (07/14), Northwestern (12/13)
Space Science Telescope Institute (12/13), UC Santa Cruz (11/12), Maryland (09/12),
Harvard ITC (09/11), Caltech (05/11), Penn State (12/10), Minnesota (10/10),
U Iowa (09/10), Notre Dame (09/10), NASA GSFC Astro (04/10), Michigan State (02/10)

Seminars:

CITA (3/18), CCAPP (12/17), Stony Brook (11/17),
Stony Brook (04/15), Caltech TAPIR (11/14), LIGO GRB Group (10/14), Berkeley TAC (09/14)
IAS (03/14), Harvard CfA Lunch Seminar (02/14), U Illinois (12/13), U Penn (10/13), Rutgers (14/13)
Purdue (03/13), CITA (05/12), Caltech TAPIR (04/12), Columbia (03/12), MIT (03/12),
Princeton Wunch (10/11), MIT Gravity (09/11), U Michigan (11/10), Ohio State CCAPP (10/10),
Princeton Wunch (02/10), LBNL (04/09), Harvard CfA ITC (10/08), Princeton Wunch (10/08),
Columbia (10/08)

INVITED CONFERENCE TALKS

08/18 TeVPA 2018, Plenary Speaker (*Berlin*)
07/18 Marcel Grossman 2018, Plenary Speaker (*Rome*)
07/18 Marcel Grossman 2018, Speaker on Fast Radio Bursts (*Rome*)
06/18 Astrophysical Frontiers in the Next Decade and Beyond (*Portland, OR*)
06/18 Nuclei in the Cosmos 2018 (*Gran Sasso Laboratory*)
05/18 Shocking Supernovae: Surrounding Interactions and Unusual Events (*Stockholm, Sweden*)
05/18 Nuclear Astrophysics in the Era of Multi-Messenger Astronomy (*New York, NY*)
05/18 Sackler Conference on Gravitational Wave Astrophysics (*Harvard*)
04/18 Gravitational Wave Astrophysics During the next LIGO Observing Run (*Princeton*)
04/18 EWASS 2018 Special Session on GW Counterparts (*Liverpool, UK*)
04/18 EWASS 2018 Special Session on Novae (*Liverpool, UK*)
02/18 PAX3 (*State College, PA*)
02/18 CIFAR Meeting on Gravity & Extreme Universe (*Banff*)
01/18 2018 AAS Winter Meeting (*Washington, DC*)
11/17 JSI Workshop on Cosmic Accelerators (*Annapolis Maryland*)
11/17 The Astrophysics of NS Mergers (*Flatiron Institute NYC*)
10/17 IAUS 338: Gravitational Wave Astrophysics (Plenary) (*Baton Rouge, LA*)
09/17 Tidal Disruption Events: Piercing the Sphere of Influence (*Cambridge, UK*)
07/17 12th Amaldi Conference on Gravitational Waves (Plenary) (*Pasadena, California*)
06/17 Physics of Extreme Gravity Stars (*NORDITA; Stockholm, Sweden*)
06/17 Workshop on Fast Radio Bursts (*Quebec, Ontario*)
05/17 LIGO-LSST Workshop (*New York, NY*)
11/16 Astrophysics in the Era of GW/Multimessenger Observations (*Annapolis, Maryland*)
09/16 MODEST-16 Conference (*New York, NY*)
07/16 GR 21 Conference (*New York, NY*)
05/16 Sackler Conference on "Transient Sky" (*Cambridge, MA*)
05/16 Neutron Stars in the Multi-Messenger Era: Prospects and Challenges (*Athens, Ohio*)

05/16 Mysterious Connection Between Superluminous SNe and GRBs (*Baltimore, Md*)
11/15 Fermi Space Telescope Symposium, (*Washington, DC*)
06/15 Fifty One Ergs (*Rayleigh, NC*)
05/15 Workshop on Binary Neutron Star Mergers (*Thessaloniki, Greece*)
11/14 Wide Field Infrared Surveys: Science and Techniques, Contributed (*Pasadena, CA*)
10/14 I-Core Transients Unsolved Mysteries (*Eilat, Israel*)
10/14 GMT Science Meeting on Time-Domain Astrophysics (*Washington, DC*)
08/14 INT Workshop: the *R*-Process: Status and Challenges (*Seattle, WA*)
06/14 Royal Society Gravitational Wave–Gamma-Ray Burst Meeting (*Chicheley Hall, UK*)
06/14 Gamma-Ray Bursts in the Multi-Messenger Era (*Paris, France*)
05/14 Frontiers of Neutron Star Astrophysics (*Ithaca, NY*)
05/14 Workshop on Relativistic Plasma Astrophysics (*West Lafayette, IN*)
04/14 American Physical Society Meeting 2014 (*Savannah, GA*)
01/14 GRB-Magnetar Thinkshop (*Bormio, Italy*)
11/13 Putting Accretion Theory to the Test (*Annapolis, MD*)
09/13 Explosive Astrophysical Transients, Contributed (*Santorini, Greece*)
09/13 MICRA 2013, Contributed (*Trento, Italy*)
09/13 Future of Relativistic Jets (*Stockholm, Sweden*)
05/13 Radiative Processes Near Black Holes, Panel (*Princeton, NJ*)
10/12 Gamma-Ray Burst Symposium 2012, Contributed (*Malaga, Spain*)
08/12 Rattle and Shine: GW/EM Studies of CBCs (*KITP Santa Barbara*)
06/12 Tidal Disruption Events and AGN Flares, Contributed (*Madrid, Spain*)
06/12 GRBs in the Era of Rapid Follow-up (*Liverpool, UK*)
03/12 Death of Massive Stars, Contributed (*Nikko, Japan*)
10/11 Einstein Fellows Symposium (*NASA Goddard*)
09/11 New Horizons in Time Domain Astronomy Workshop (*Oxford, UK*)
09/11 2011 HEAD Meeting (*Newport, RI*)
10/10 Einstein Fellows Symposium (*Harvard CfA*)
04/10 2010 HEAD Meeting, Dissertation Award Talk (*Big Island, HI*)
10/09 Einstein Fellows Symposium (*Harvard CfA*)
10/09 2009 BASH Symposium, Invited Review on Gamma-Ray Bursts (*UT; Austin, TX*)

SELECT PROFESSIONAL SERVICE and PUBLIC OUTREACH

Workshop/Conference Organizer:

- 05/19 “The New Era of GW Physics and Astrophysics,” KITP Santa Barbara
- 05/18 “Nuclear Astrophysics in the Era of Multi-Messenger Astronomy”, World Science Festival
- 10/17 “Workshop on Binary Neutron Star Merger Discovery”, Columbia University
- 09/17 “EM Signatures of R-process Nucleosynthesis in NS Mergers,” INT Washington
- 05/17 “Common Envelope Workshop”, Simons Flatiron NYC
- 06/17 “Connecting FRIB with the Cosmos”, ICNT Michigan State
- 06/16 “Shocks & Particle Acceleration in Novae and SNe”, Simons Flatiron NYC
- 05/17 “LIGO-LSST Workshop”, Columbia University
- 03/14 “Signals and Structure of Neutron Stars, from Birth to Death”, GGI Florence
- 05/12 “Connecting the GW & EM Skies in the Era of ALIGO”, PCTS Princeton

Reviewer of Research Grant Applications and Observing Time:

- 01/17 Columbia University RISE Program
- 2010,16,17 NASA Astrophysics Theory Proposal
- 04/16 Cy-Tera and Eastern Mediterranean High Power Computing
- 2015 NASA Chandra Guest Investigator Program
- 01/15 NSF Theoretical Nuclear Physics
- 2014 NASA Postdoctoral Program Fellowship
- 2013– HST Director’s Discretionary Time Proposal
- 2012 NSF Astrophysics Theory
- 01/12 NESSF Graduate Student Fellowship
- 2011 NASA *Fermi* Guest Investigator Program
- 2014– Telescope Time, e.g. *Hubble Space Telescope*, *Gemini Observatory*

Guest Lecturer:

- 05/18 FRIB Theory Alliance Neutron Star Merger Summer School
- 07/15 Caltech Gravitational Wave Astrophysics Summer School
- 03/14 Graduate Student Lectures on Gamma-Ray Bursts, GGI Workshop
- 06/12 Princeton Summer REU Program

Journal Article Reviewer:

- Nature*, *The Astrophysical Journal*, *Nature Astronomy*, *ApJ Letters*, *PRL*
New Astronomy, *Monthly Notices of the Royal Astronomical Society*,
Astrophysics & Space Science, *Space Science Reviews*
- 2014–16 Member of “Time Domain” working group, Next Generation VLA
- 2010– Public Lectures, Southeast Iowa Astronomy Club