

ERIC POISSON

LIST OF PUBLICATIONS

The list was compiled in June, 2017. It comprises 2 books, 88 papers published in refereed journals, and 12 unrefereed publications. The papers are listed in reversed chronological order. Names in **sans-serif font** represent undergraduate or graduate students, or post-doctoral fellows, working under my supervision.

Citation statistics. According to INSPIRE, a compilation of 80 of my publications have collected a total of 4,644 citations, an average of 58 citations per paper. I have 3 “famous papers” with 436, 365, and 263 citations, respectively, 11 “very well-known papers” (between 100 and 249 citations), 12 “well-known papers” (between 50 and 99 citations), and 39 “known papers” (between 10 and 49 citations). My h-index is 35, meaning that 35 of my papers have collected more than 35 citations each.

Books

1. E. Poisson and C.W. Will, *Gravity: Newtonian, post-Newtonian, Relativistic* (Cambridge, Cambridge University Press, 2014).
2. E. Poisson, *A Relativist’s Toolkit: The Mathematics of Black-Hole Mechanics* (Cambridge, Cambridge University Press, 2004).

Papers in refereed journals

1. E. Poisson and J. Douçot, *Gravitomagnetic tidal currents in rotating neutron stars*, Phys. Rev. D **95**, 044023, 19 pages (2017).
2. L. Lehner, R. C. Myers, E. Poisson, and R. D. Sorkin, *Gravitational action with null boundaries*, Phys. Rev. D **94**, 084046, 36 pages (2016).
3. K. Chatziioannou, E. Poisson, N. Yunes, *Improved next-to-leading order tidal heating and torquing of a Kerr black hole*, Phys. Rev. D **94**, 084043, 13 pages (2016).
4. S. Isoyama, R.F.P. Mendes, and E. Poisson, *Self-force and fluid resonances*, Class. Quantum Grav. **33**, 085002, 34 pages (2016).
5. P. Landry and E. Poisson, *Dynamical response to a stationary tidal field*, Phys. Rev. D **92**, 124041, 11 pages (2015).
6. P. Landry and E. Poisson, *Gravitomagnetic response of an irrotational body to an applied tidal field*, Phys. Rev. D **91**, 104026, 13 pages (2015).
7. P. Landry and E. Poisson, *Tidal deformation of a slowly rotating material body. External metric*, Phys. Rev. D **91**, 104018, 15 pages (2015).
8. E. Poisson, *Tidal deformation of a slowly rotating black hole*, Phys. Rev. D **91**, 044004, 27 pages, Editor’s Suggestion (2015).
9. P. Zimmerman and E. Poisson, *Gravitational self-force in nonvacuum spacetimes*, Phys. Rev. D **90**, 084030, 17 pages (2014).

10. P. Landry and E. Poisson, *Relativistic theory of surficial Love numbers*, Phys. Rev. D **89**, 124011, 10 pages (2014).
11. M.J.S. Beach, E. Poisson, and B.G. Nickel, *Self-force on a charge outside a five-dimensional black hole*, Phys. Rev. D **89**, 124014, 20 pages (2014).
12. P. Landry and E. Poisson, *Relativistic theory of surficial Love numbers*, Phys. Rev. D **89**, 124011, 10 pages (2014).
13. P. Fromholz, E. Poisson, and C.M. Will, *The Schwarzschild metric: It's the coordinates, stupid!*, Am. J. Phys. **82**, 295–300 (2014).
14. J. Kuchar, E. Poisson, and I. Vega, *Electromagnetic self-force on a static charge in Schwarzschild-de Sitter spacetimes*, Class. Quantum Grav. **30**, 235033, 13 pages (2013).
15. K. Chatziioannou, E. Poisson, and N. Yunes, *Tidal heating and torquing of a Kerr black hole to next-to-leading order in the tidal coupling*, Phys. Rev. D **87**, 044022, 16 pages (2013).
16. P. Zimmerman, I. Vega, E. Poisson, and R. Haas, *Self-force as a cosmic censor*, Phys. Rev. D **87**, 041501(R), 6 pages (2013).
17. M. Casals, E. Poisson, and I. Vega, *Regularization of static self-forces*, Phys. Rev. D **86**, 064033, 23 pages (2012).
18. S. Isoyama and E. Poisson, *Self-force as probe of internal structure*, Class. Quantum Grav. **29**, 155012, 17 pages (2012).
19. I. Vega, E. Poisson, and R. Massey, *Intrinsic and extrinsic geometries of a tidally deformed black hole*, Class. Quantum Grav. **28**, 175006, 26 pages (2011).
20. Eric Poisson, Adam Pound, and Ian Vega, *The motion of point particles in curved spacetime*, Living Rev. Relativity **14**, Online article: <http://www.livingreviews.org/lrr-2011-7> (2011).
21. C.G. Gray and E. Poisson, *When action is not least for orbits in general relativity*, Am. J. Phys. **79**, 43–55 (2011).
22. E. Poisson and I. Vlasov, *Geometry and dynamics of a tidally deformed black hole*, Phys. Rev. D **81**, 024029, 42 pages (2010).
23. S. Comeau and E. Poisson, *Tidal interaction of a small black hole in the field of a large Kerr black hole*, Phys. Rev. D **80**, 087501, 4 pages (2009).
24. T. Binnington and E. Poisson, *Relativistic theory of tidal Love numbers*, Phys. Rev. D **80**, 084018, 30 pages (2009).
25. E. Poisson, *Tidal interaction of black holes and Newtonian viscous bodies*, Phys. Rev. D **80**, 064029, 11 pages (2009).
26. S. Taylor and E. Poisson, *Nonrotating black hole in a post-Newtonian tidal environment*, Phys. Rev. D **78**, 084016, 26 pages (2008).
27. A. Pound and E. Poisson, *Multi-scale analysis of the electromagnetic self-force in a weak gravitational field*, Phys. Rev. D **77**, 044012, 17 pages (2008).
28. A. Pound and E. Poisson, *Osculating orbits in Schwarzschild spacetime, with an application to extreme mass-ratio inspirals*, Phys. Rev. D **77**, 044013, 18 pages (2008).

29. B. Preston and E. Poisson, *A light-cone gauge for black-hole perturbation theory*, Phys. Rev. D **74**, 064010, 13 pages (2006).
30. B. Preston and E. Poisson, *Light-cone coordinates based at a geodesic world line*, Phys. Rev. D **74**, 064009, 10 pages (2006).
31. R. Haas and E. Poisson, *Mode-sum regularization of the scalar self-force: Formulation in terms of a tetrad decomposition of the singular field*, Phys. Rev. D **74**, 044009, 29 pages (2006).
32. A. Pound, E. Poisson, and B.G. Nickel, *Limitations of the adiabatic approximation to the gravitational self-force*, Phys. Rev. D **72**, 124001, 9 pages (2005).
33. K. Martel and E. Poisson, *Gravitational perturbations of the Schwarzschild spacetime: A practical covariant and gauge-invariant formalism*, Phys. Rev. D **71**, 104003, 13 pages (2005).
34. E. Poisson, *Metric of a tidally distorted, nonrotating black hole*, Phys. Rev. Lett. **94**, 161103, 4 pages (2005).
35. R. Haas and E. Poisson, *Mass change and motion of a scalar charge in cosmological spacetimes*, Class. Quantum Grav. **22**, S739–S752 (2005).
36. E. Poisson, *Absorption of mass and angular momentum by a black hole: Time-domain formalisms for gravitational perturbations, and the small-hole/slow-motion approximation*, Phys. Rev. D **70**, 084044, 36 pages (2004).
37. E. Poisson, *Radiation reaction of point particles in curved spacetime*, Class. Quantum Grav. **21**, R153–R232 (2004).
38. E. Poisson, *The motion of point particles in curved spacetime*, Living Rev. Relativity **7**, Online article: <http://www.livingreviews.org/lrr-2004-6> (2004).
39. S. Detweiler and E. Poisson, *Low multipole contributions to the gravitational self-force*, Phys. Rev. D **69**, 084019, 18 pages (2004).
40. E. Poisson, *Retarded coordinates based at a world line, and the motion of a small black hole in an external universe*, Phys. Rev. D **69**, 084007, 21 pages (2004).
41. K. Martel and E. Poisson, *A one-parameter family of time-symmetric initial data for the radial infall of a particle into a Schwarzschild black hole*, Phys. Rev. D **66**, 084001, 16 pages (2002).
42. E. Poisson, *Radiative falloff of a scalar field in a weakly curved spacetime without symmetries*, Phys. Rev. D **66**, 044008, 17 pages (2002).
43. L.M. Burko, A.I. Harte, and E. Poisson, *Mass loss by a scalar charge in an expanding universe*, Phys. Rev. D **65**, 124006, 11 pages (2002).
44. M.J. Pfenning and E. Poisson, *Scalar, electromagnetic, and gravitational self-forces in weakly curved spacetimes*, Phys. Rev. D **65**, 084001, 30 pages (2002).
45. W.G. Laarakkers and E. Poisson, *Radiative falloff in Einstein-Straus spacetime*, Phys. Rev. D **64**, 084008, 13 pages (2001).
46. K. Martel and E. Poisson, *Regular coordinate systems for Schwarzschild and other spherical spacetimes*, Am. J. Phys. **69**, 476–480 (2001).
47. W. Tichy, E.E. Flanagan, and E. Poisson, *Can the post-Newtonian gravitational waveform of an inspiraling binary be improved by solving the energy balance equation numerically?*, Phys. Rev. D **61**, 104015, 11 pages (2000).

48. K. Martel and E. Poisson, *Gravitational waves from eccentric compact binaries: Reduction in signal-to-noise ratio due to nonoptimal signal processing*, Phys. Rev. D **60**, 124008, 8 pages (1999).
49. P.R. Brady, C.M. Chambers, W.G. Laarakkers, and E. Poisson, *Radiative falloff in Schwarzschild-de Sitter spacetime*, Phys. Rev. D **60**, 064003, 10 pages (1999).
50. S. Droz, D.J. Knapp, E. Poisson, and B.J. Owen, *Gravitational waves from inspiraling compact binaries: Validity of the stationary-phase approximation to the Fourier transform*, Phys. Rev. D **59**, 124016, 8 pages (1999).
51. W.G. Laarakkers and E. Poisson, *Quadrupole moments of rotating neutron stars*, Astrophys. J. **512**, 282–287 (1999).
52. S.W. Leonard and E. Poisson, *Gravitational waves from binary systems in circular orbits: Convergence of a partially-bare multipole expansion*, Class. Quantum Grav. **15**, 2075–2081 (1998).
53. E. Poisson, *Gravitational waves from inspiraling compact binaries: The quadrupole-moment term*, Phys. Rev. D **57**, 5287–5290 (1998).
54. S.W. Leonard and E. Poisson, *Radiative multipole moments of integer-spin fields in curved spacetime*, Phys. Rev. D **56**, 4789–4814 (1997).
55. S. Droz and E. Poisson, *Gravitational waves from inspiraling compact binaries: Second post-Newtonian waveforms as search templates*, Phys. Rev. D **56**, 4449–4454 (1997).
56. E. Poisson, *Erratum and Addendum: Gravitational radiation from a particle in circular orbit around a black hole. VI. Accuracy of the post-Newtonian expansion*, Phys. Rev. D **55**, 7980–7981 (1997).
57. L.E. Simone, S.W. Leonard, E. Poisson, and C.M. Will, *Gravitational waves from binary systems in circular orbits: Does the post-Newtonian expansion converge?*, Class. Quantum Grav. **14**, 237–256 (1997).
58. E. Poisson, *Gravitational radiation from infall into a black hole: Regularization of the Teukolsky equation*, Phys. Rev. D **55**, 639–649 (1997).
59. E. Poisson, *Measuring black-hole parameters and testing general relativity using gravitational-wave data from space-based interferometers*, Phys. Rev. D **54**, 5939–5953 (1996).
60. E. Poisson and M. Visser, *Thin-shell wormholes: Linearization stability*, Phys. Rev. D **52**, 7318–7321 (1995).
61. E. Poisson, *Gravitational radiation from a particle in circular orbit around a black hole. VI. Accuracy of the post-Newtonian expansion*, Phys. Rev. D **52**, 5719–5723 (1995).
62. L.E. Simone, E. Poisson, and C.M. Will, *Head-on collision of compact objects in general relativity: Comparison of post-Newtonian and perturbation approaches*, Phys. Rev. D **52**, 4481–4496 (1995).
63. E. Poisson and C.M. Will, *Gravitational waves from inspiraling compact binaries: Parameter estimation using second-post-Newtonian waveforms*, Phys. Rev. D **52**, 848–855 (1995).
64. E. Poisson and M. Sasaki, *Gravitational radiation from a particle in circular orbit around a black hole. V. Black-hole absorption and tail corrections*, Phys. Rev. D **51**, 5753–5767 (1995).
65. D. Marković and E. Poisson, *Classical stability and quantum instability of black-hole Cauchy horizons*, Phys. Rev. Lett. **74**, 1280–1283 (1995).
66. A. Ori and E. Poisson, *Death of cosmological white holes*, Phys. Rev. D **50**, 6150–6157 (1994).

67. C. Cutler, D. Kennefick, and E. Poisson, *Gravitational radiation reaction for bound motion around a Schwarzschild black hole*, Phys. Rev. D **50**, 3816–3835 (1994).
68. E. Poisson, *Gravitational-wave astronomy*, J. Roy. Astron. Can. **87**, 234–243 (1993).
69. E. Poisson, *Gravitational radiation from a particle in circular orbit around a black hole. IV: Analytical results for the slowly rotating case*, Phys. Rev. D **48**, 1860–1863 (1993).
70. A. Apostolatos, D. Kennefick, A. Ori, and E. Poisson, *Gravitational radiation from a particle in circular orbit around a black hole. III: Stability of circular orbits under radiation reaction*, Phys. Rev. D. **47**, 5376–5388 (1993).
71. C. Cutler, T.A. Apostolatos, L. Bildsten, L.S. Finn, E.E. Flanagan, D. Kennefick, D.M. Markovic, A. Ori, E. Poisson, G.J. Sussman, and K.S. Thorne, *The last three minutes: Issues in gravitational-wave measurements of coalescing compact binaries*, Phys. Rev. Lett. **70**, 2984–2987 (1993).
72. C. Barrabès, P.R. Brady, and E. Poisson, *Death of white holes*, Phys. Rev. D **47**, 2383–2387 (1993).
73. C. Cutler, L.S. Finn, E. Poisson, and G.J. Sussman, *Gravitational radiation from a particle in circular orbit around a black hole. II: Numerical results for the nonrotating case*, Phys. Rev. D **47**, 1511–1518 (1993).
74. E. Poisson, *Gravitational radiation from a particle in circular orbit around a black hole. I: Analytical results for the nonrotating case*, Phys. Rev. D **47**, 1497–1510 (1993).
75. R. Balbinot and E. Poisson, *Mass inflation: The semiclassical regime*, Phys. Rev. Lett. **70**, 13–16 (1993).
76. P.R. Brady and E. Poisson, *Cauchy-horizon instability for Reissner-Nordström black holes in de Sitter space*, Class. Quantum. Grav. **9**, 121–125 (1992).
77. R. Balbinot, P.R. Brady, W. Israel and E. Poisson, *How singular are black hole interiors?*, Phys. Lett. A **161**, 223–226 (1991).
78. P.R. Brady, J. Louko and E. Poisson, *Stability of a shell around a black hole*, Phys. Rev. D **44**, 1891–1894 (1991).
79. E. Poisson, *Quadratic gravity as hair tonic for black holes*, Class. Quantum Grav. **8**, 639–650 (1991).
80. E. Poisson, *Quadratic gravity and the black hole singularity*, Phys. Rev. D **43**, 3923–3928 (1991).
81. C. Barrabès, W. Israel, and E. Poisson, *Collision of lightlike shells and mass inflation inside black holes*, Class. Quantum Grav. **7**, L273–L278 (1990).
82. E. Poisson, *A look inside black holes*, J. Roy. Astron. Soc. Can. **84**, 191–198 (1990).
83. E. Poisson and W. Israel, *The internal structure of black holes*, Phys. Rev. D **41**, 1796–1801 (1990).
84. R. Balbinot and E. Poisson, *On the stability of the Schwarzschild - de Sitter model*, Phys. Rev. D **41**, 395–402 (1990).
85. E. Poisson and W. Israel, *Eschatology of the black hole interior*, Phys. Lett. **B233**, 74–78 (1989).
86. S. Pineault and E. Poisson, *Encounters between degenerate stars and extra-solar comet clouds*, Astrophys. J. **347**, 1141–1154 (1989).
87. E. Poisson and W. Israel, *Inner-horizon instability and mass-inflation in black holes*, Phys. Rev. Lett. **63**, 1663–1666 (1989).
88. E. Poisson and W. Israel, *Structure of the black hole nucleus*, Class. Quantum Grav. **5**, L201–L205 (1988).

Conference proceedings

1. E. Poisson, *Constructing the self-force*, in *Mass and Motion in General Relativity (Fundamental Theories of Physics)*, edited by Luc Blanchet, Alessandro Spallicci, and Bernard Whiting (Springer, 2011).
2. E. Poisson, *The gravitational self-force*, in *General relativity and gravitation. Proceedings of the 17th International Conference*, edited by P. Florides, B. Nolan, and A. Ottewill (World Scientific, New Jersey, 2005).
3. W.G. Laarakkers and E. Poisson, *Radiative falloff in black-hole spacetimes*, in *General relativity and relativistic astrophysics; Eighth Canadian conference*, edited by C.P. Burgess and R.C. Myers (American Institute of Physics, Melville, 1999).
4. E. Poisson, *Gravitational waves from inspiraling compact binaries: Accuracy of the post-Newtonian waveforms*, in *Second Workshop on Gravitational Wave Data Analysis*, edited by M. Davier and P. Hello (Editions Frontieres, 1998).
5. E. Poisson, *Black-hole interiors and strong cosmic censorship*, in *Internal Structure of Black Holes and Spacetime Singularities*, edited by Lior M. Burko and Amos Ori (Institute of Physics, Bristol, 1997).
6. E. Poisson, *Gravitational waves from coalescing compact binaries*, in *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics*, edited by S.P. Brahm, J.D. Gegenberg, and R.J. McKellar (Fields Institute Communications, American Mathematical Society, Providence, 1997).
7. E. Poisson, *Radiation reaction for bound motion in Schwarzschild*, in *Proceedings of the Fifth Canadian Conference on General Relativity and Relativistic Astrophysics*, edited by R.B. Mann and R.G. McLenaghan (World Scientific, Singapore, 1994).
8. E. Poisson, *Semi-classical gravity and the black hole singularity*, in *Gravitation: A Banff summer institute*, edited by R. Mann and P. Wesson (World Scientific, Singapore, 1991).
9. E. Poisson, *Quantum effects near the black hole singularity*, in *Proceedings of the third Canadian conference on general relativity and relativistic astrophysics*, edited by A. Coley, F. Cooperstock, and S. Tupper (World Scientific, Singapore, 1990).

Unpublished papers

1. J. Molina Sanchez and Eric Poisson, *Extended-body approach to the electromagnetic self-force in curved spacetime* (2006), posted in the Los Alamos preprint archives at <http://xxx.lanl.gov/abs/gr-qc/0512111>.
2. E. Poisson, *A reformulation of the Barrabès-Israel null-shell formalism* (2002), posted in the Los Alamos preprint archives at <http://xxx.lanl.gov/abs/gr-qc/0207101>.
3. E. Poisson, *An introduction to the Lorentz-Dirac equation* (1999), posted in the Los Alamos preprint archives at <http://xxx.lanl.gov/abs/gr-qc/9912045>.

Papers published or submitted by students and postdocs while working under my supervision

1. R.F.P. Mendes and N. Ortiz, *Highly compact neutron stars in scalar-tensor theories of gravity: Spontaneous scalarization versus gravitational collapse*, *Phys. Rev. D* **93**, 124035 (2016).

2. J. Santiago, A.G.S. Landulfo, W.C.C. Lima, G.E.A. Matsas, R.F.P. Mendes, and D.A. T. Vanzella, *Instability of nonminimally coupled scalar fields in the spacetime of thin charged shells*, Phys. Rev. D **93**, 024043 (2016).
3. R.F.P. Mendes, *On the possibility of setting a new constraint to scalar-tensor theories*, Phys. Rev. D **91**, 064024 (2015).
4. I. Vega, B. Wardell, and P. Diener, *Effective source approach to self-force calculations*, Class. Quantum Grav. **28**, 134010 (2011).
5. A. Pound, *Singular perturbation techniques in the gravitational self-force problem*, Phys. Rev. D **81**, 124009, 40 pages (2010).
6. A. Pound, *The self-consistent gravitational self-force*, Phys. Rev. D **81**, 024023, 45 pages (2010).
7. R. Haas, *Scalar self-force on eccentric geodesics in Schwarzschild spacetime: a time-domain computation*, Phys. Rev. D **75**, 124011, 17 pages (2007).
8. N. Yunes, C.F. Sopuerta, L.J. Rubbo, and K. Holley-Bockelmann, *Relativistic effects in extreme mass ratio gravitational wave bursts*, submitted to the Astrophysical Journal on 19 April 2007 (arXiv:0704.2612v1).
9. C.F. Sopuerta, N. Yunes, and P. Laguna, *Gravitational recoil velocities from eccentric binary black hole mergers*, Astrophys. J. **656**, L9–L12 (2007).