

Carpet Publications

Background Publications and Web Pages

1. T. Goodale, G. Allen, G. Lanfermann, J. Massó, T. Radke, E. Seidel, and J. Shalf, *The Cactus framework and toolkit: Design and applications*, in *Vector and Parallel Processing – VECPAR'2002, 5th International Conference, Lecture Notes in Computer Science* (Springer, Berlin, 2003), URL <http://edoc.mpg.de/3341>.
2. E. Schnetter, P. Diener, E. N. Dorband, and M. Tiglio, *A multi-block infrastructure for three-dimensional time-dependent numerical relativity*, *Class. Quantum Grav.* **23**, S553 (2006), arXiv:gr-qc/0602104, URL <http://arxiv.org/abs/gr-qc/0602104>.
3. E. Schnetter, S. H. Hawley, and I. Hawke, *Evolutions in 3d numerical relativity using fixed mesh refinement*, *Class. Quantum Grav.* **21**, 1465 (2004), arXiv:gr-qc/0310042, URL <http://arxiv.org/abs/gr-qc/0310042>.
4. *Mesh refinement with Carpet*, URL <http://www.carpetcode.org/>.
5. *Cactus Computational Toolkit*, URL <http://www.cactuscode.org/>.

Publications in Refereed Journals

1. C. Reisswig, N. T. Bishop, D. Pollney, and B. Szilágyi, *Characteristic extraction in numerical relativity: binary black hole merger waveforms at null infinity*, *Class. Quantum Grav.* **27**, 075014 (2010), arXiv:0912.1285 [gr-qc], URL <http://arxiv.org/abs/0912.1285>.
2. Y. T. Liu, Z. B. Etienne, and S. L. Shapiro, *Evolution of near-extremal-spin black holes using the moving puncture technique*, *Phys. Rev. D* **80**, 121503(R) (2010), arXiv:1001.4077 [gr-qc], URL <http://arxiv.org/abs/1001.4077>.
3. I. Vega, P. Diener, W. Tichy, and S. Detweiler, *Self-force with (3+1) codes: a primer for numerical relativists*, *Phys. Rev. D* **80**, 084021 (2009), arXiv:0908.2138 [gr-qc], URL <http://arxiv.org/abs/0908.2138>.
4. D. Pollney, C. Reisswig, N. Dorband, E. Schnetter, and P. Diener, *The asymptotic falloff of local waveform measurements in numerical relativity*, *Phys. Rev. D* **80**, 121502(R) (2009), arXiv:0910.3656 [gr-qc], URL <http://arxiv.org/abs/0910.3656>.
5. B. Giacomazzo, L. Rezzolla, and L. Baiotti, *The influence of magnetic fields on the gravitational-wave emission from binary neutron stars*, *Mon. Not. Roy. Astron. Soc.* **339**, L164 (2009), arXiv:0901.2722 [gr-qc], URL <http://arxiv.org/abs/0901.2722>.
6. C. Reisswig, N. T. Bishop, D. Pollney, and B. Szilágyi, *Unambiguous determination of gravitational waveforms from binary black hole mergers*, *Phys. Rev. Lett.* **103**, 221101 (2009), arXiv:0907.2637 [gr-qc], URL <http://arxiv.org/abs/0907.2637>.
7. C. Reisswig, S. Husa, L. Rezzolla, E. N. Dorband, D. Pollney, and J. Seiler, *Gravitational-wave detectability of equal-mass black-hole binaries with aligned spins*, *Phys. Rev. D* **80**, 124026 (2009), arXiv:0907.0462 [gr-qc], URL <http://arxiv.org/abs/0907.0462>.

8. J. Healy, J. Levin, and D. Shoemaker, *Zoom-whirl orbits in black hole binaries*, Phys. Rev. Lett. **103**, 131101 (2009), arXiv:0907.0671 [gr-qc], URL <http://arxiv.org/abs/0907.0671>.
9. U. Sperhake, V. Cardoso, F. Pretorius, E. Berti, T. Hinderer, and N. Yunes, *Cross section, final spin and zoom-whirl behavior in high-energy black hole collisions*, Phys. Rev. Lett. **103**, 131102 (2009), arXiv:0907.1252 [gr-qc], URL <http://arxiv.org/abs/0907.1252>.
10. M. Saijo and I. Hawke, *Collapse of differentially rotating supermassive stars: Post black hole formation*, Phys. Rev. D **80**, 064001 (2009), arXiv:0908.3002 [gr-qc], URL <http://arxiv.org/abs/0908.3002>.
11. C. D. Ott, *Probing the core-collapse supernova mechanism with gravitational waves*, Class. Quantum Grav. **26**, 204015 (2009), arXiv:0905.2797 [gr-qc], URL <http://arxiv.org/abs/0905.2797>.
12. B. Vaishnav, I. Hinder, D. Shoemaker, and F. Herrmann, *Gravitational waves from eccentric intermediate mass binary black hole mergers*, Class. Quantum Grav. **26**, 204008 (2009).
13. E. Barausse and L. Rezzolla, *Predicting the direction of the final spin from the coalescence of two black holes*, Astrophys. J. **704**, L40 (2009), arXiv:0904.2577 [gr-qc], URL <http://arxiv.org/abs/0904.2577>.
14. B. Aylott, J. G. Baker, W. D. Boggs, M. Boyle, P. R. Brady, D. A. Brown, B. Brügmann, L. T. Buchman, A. Buonanno, L. Cadonati, J. Camp, M. Campanelli, J. Centrella, S. Chatterji, N. Christensen, T. Chu, P. Diener, N. Dorband, Z. B. Etienne, J. Faber, S. Fairhurst, B. Farr, S. Fischetti, G. Guidi, L. M. Goggin, M. Hannam, F. Herrmann, I. Hinder, S. Husa, V. Kalogera, D. Keppel, L. E. Kidder, B. J. Kelly, B. Krishnan, P. Laguna, C. O. Lousto, I. Mandel, P. Marronetti, R. Matzner, S. T. McWilliams, K. D. Matthews, R. A. Mercer, S. R. P. Mohapatra, A. H. Mroué, H. Nakano, E. Ochsner, Y. Pan, L. Pekowsky, H. P. Pfeiffer, D. Pollney, F. Pretorius, V. Raymond, C. Reisswig, L. Rezzolla, O. Rinne, C. Robinson, C. Röver, L. Santamaría, B. Sathyaprakash, M. A. Scheel, E. Schnetter, J. Seiler, S. L. Shapiro, D. Shoemaker, U. Sperhake, A. Stroeer, R. Sturani, W. Tichy, Y. T. Liu, M. van der Sluys, J. R. van Meter, R. Vaulin, A. Vecchio, J. Veitch, A. Viceré, J. T. Whelan, and Y. Zlochower, *Status of NINJA: the Numerical INjection Analysis project*, Class. Quantum Grav. **26**, 114008 (2009), arXiv:0901.4399 [gr-qc], URL <http://arxiv.org/abs/0905.4227>.
15. T. Bode, P. Laguna, D. M. Shoemaker, I. Hinder, F. Herrmann, and J. Vishnav, *Binary black hole evolutions of approximate puncture initial data*, Phys. Rev. D **80**, 024008 (2009), arXiv:0902.1127 [gr-qc], URL <http://arxiv.org/abs/0902.1127>.
16. T. W. Baumgarte, Z. B. Etienne, Y. T. Liu, K. Matera, N. Ó. Murchadha, S. L. Shapiro, and K. Taniguchi, *Equilibrium initial data for moving puncture simulations: the stationary 1+log slicing*, Class. Quantum Grav. **26**, 085007 (2009), arXiv:0810.0006 [gr-qc], URL <http://arxiv.org/abs/0810.0006>.
17. L. Baiotti, B. Giacomazzo, and L. Rezzolla, *Accurate evolutions of inspiralling neutron-star binaries: assessment of the truncation error*, Class. Quantum Grav. **26**, 114005 (2009), arXiv:0901.4955 [gr-qc], URL <http://arxiv.org/abs/0901.4955>.
18. B. Aylott, J. G. Baker, W. D. Boggs, M. Boyle, P. R. Brady, D. A. Brown, B. Brügmann, L. T. Buchman, A. Buonanno, L. Cadonati, J. Camp, M. Campanelli, J. Centrella, S. Chatterji, N. Christensen, T. Chu, P. Diener, N. Dorband, Z. B. Etienne, J. Faber, S. Fairhurst, B. Farr, S. Fischetti, G. Guidi, L. M. Goggin, M. Hannam, F. Herrmann, I. Hinder, S. Husa,

- V. Kalogera, D. Keppel, L. E. Kidder, B. J. Kelly, B. Krishnan, P. Laguna, C. O. Lousto, I. Mandel, P. Marronetti, R. Matzner, S. T. McWilliams, K. D. Matthews, R. A. Mercer, S. R. P. Mohapatra, A. H. Mroué, H. Nakano, E. Ochsner, Y. Pan, L. Pekowsky, H. P. Pfeiffer, D. Pollney, F. Pretorius, V. Raymond, C. Reisswig, L. Rezzolla, O. Rinne, C. Robinson, C. Röver, L. Santamaría, B. Sathyaprakash, M. A. Scheel, E. Schnetter, J. Seiler, S. L. Shapiro, D. Shoemaker, U. Sperhake, A. Stroeer, R. Sturani, W. Tichy, Y. T. Liu, M. van der Sluys, J. R. van Meter, R. Vaulin, A. Vecchio, J. Veitch, A. Viceré, J. T. Whelan, and Y. Zlochower, *Testing gravitational-wave searches with numerical relativity waveforms: Results from the first Numerical INJECTION Analysis (NINJA) project*, *Class. Quantum Grav.* **26**, 165008 (2009), arXiv:0901.4399 [gr-qc], URL <http://arxiv.org/abs/0901.4399>.
19. M. Hannam, S. Husa, J. G. Baker, M. Boyle, B. Brügmann, T. Chu, N. Dorband, F. Herrmann, I. Hinder, B. J. Kelly, L. E. Kidder, P. Laguna, K. D. Matthews, J. R. van Meter, H. P. Pfeiffer, D. Pollney, C. Reisswig, M. A. Scheel, and D. Shoemaker, *The Samurai project: verifying the consistency of black-hole-binary waveforms for gravitational-wave detection*, *Phys. Rev. D* **79**, 084025 (2009), arXiv:0901.2437 [gr-qc], URL <http://arxiv.org/abs/0901.2437>.
 20. L. Rezzolla, *Modelling the final state from binary black-hole coalescences*, *Class. Quantum Grav.* **26**, 094023 (2009), arXiv:0812.2325 [gr-qc], URL <http://arxiv.org/abs/0812.2325>.
 21. Z. B. Etienne, Y. T. Liu, S. L. Shapiro, , and T. W. Baumgarte, *General relativistic simulations of black-hole-neutron-star mergers: Effects of black-hole spin*, *Phys. Rev. D* **79**, 044024 (2009), arXiv:0812.2245 [astro-ph], URL <http://arxiv.org/abs/0812.2245>.
 22. M. Campanelli, C. O. Lousto, and Y. Zlochower, *Algebraic classification of numerical spacetimes and black-hole-binary remnants*, *Phys. Rev. D* **79**, 084012 (2009), arXiv:0811.3006 [gr-qc], URL <http://arxiv.org/abs/0811.3006>.
 23. O. Korobkin, B. Aksoylu, M. Holst, E. Pazos, and M. Tiglio, *Solving the einstein constraint equations on multi-block triangulations using finite element methods*, *Class. Quantum Grav.* **26**, 145007 (2009), arXiv:0801.1823 [gr-qc], URL <http://arxiv.org/abs/0801.1823>.
 24. D. Brown, P. Diener, O. Sarbach, E. Schnetter, and M. Tiglio, *Turduckening black holes: an analytical and computational study*, *Phys. Rev. D* **79**, 044023 (2009), arXiv:0809.3533 [gr-qc], URL <http://arxiv.org/abs/0809.3533>.
 25. L. Baiotti, S. Bernuzzi, G. Corvino, R. D. Pietri, and A. Nagar, *Gravitational-wave extraction from neutron-star oscillations: Comparing linear and nonlinear techniques*, *Phys. Rev. D* **79**, 024002 (2009), arXiv:0808.4002 [gr-qc], URL <http://arxiv.org/abs/0808.4002>.
 26. M. Campanelli, C. O. Lousto, H. Nakano, and Y. Zlochower, *Comparison of numerical and post-Newtonian waveforms for generic precessing black-hole binaries*, *Phys. Rev. D* **79**, 084010 (2009), arXiv:0808.0713 [gr-qc], URL <http://arxiv.org/abs/0808.0713>.
 27. J. Healy, F. Herrmann, I. Hinder, D. M. Shoemaker, P. Laguna, , and R. A. Matzner, *Superkicks in hyperbolic encounters of binary black holes*, *Phys. Rev. Lett.* **102**, 041101 (2009), arXiv:0807.3292 [gr-qc], URL <http://arxiv.org/abs/0807.3292>.
 28. U. Sperhake, V. Cardoso, F. Pretorius, E. Berti, , and J. A. González, *High-energy collision of two black holes*, *Phys. Rev. Lett.* **101**, 161101 (2008), arXiv:0806.1738 [gr-qc], URL <http://arxiv.org/abs/0806.1738>.

29. L. Gualtieri, E. Berti, V. Cardoso, and U. Sperhake, *Transformation of the multipolar components of gravitational radiation under rotations and boosts*, Phys. Rev. D **78**, 044024 (2008), arXiv:0805.1017 [gr-qc], URL <http://arxiv.org/abs/0805.1017>.
30. C. O. Lousto and Y. Zlochower, *Modeling gravitational recoil from precessing highly-spinning unequal-mass black-hole binaries*, Phys. Rev. D **79**, 064018 (2009), arXiv:0805.0159 [gr-qc], URL <http://arxiv.org/abs/0805.0159>.
31. W. Benger, *Colliding galaxies, rotating neutron stars and merging black holes – visualizing high dimensional datasets on arbitrary meshes*, New J. Phys. **10**, 125004 (2008), URL <http://www.iop.org/EJ/abstract/1367-2630/10/12/125004>.
32. L. Baiotti, B. Giacomazzo, and L. Rezzolla, *Accurate evolutions of inspiralling neutron-star binaries: Prompt and delayed collapse to a black hole*, Phys. Rev. D **78**, 084033 (2008), arXiv:0804.0594 [gr-qc], URL <http://arxiv.org/abs/0804.0594>.
33. S. Dain, C. O. Lousto, , and Y. Zlochower, *Extra-large remnant recoil velocities and spins from near-extremal-Bowen-York-spin black-hole binaries*, Phys. Rev. D **78**, 024039 (2008), arXiv:0803.0351 [gr-qc], URL <http://arxiv.org/abs/0803.0351>.
34. J. Seiler, B. Szilágyi, D. Pollney, and L. Rezzolla, *Constraint-preserving boundary treatment for a harmonic formulation of the einstein equations*, Class. Quantum Grav. **25**, 175020 (2008), arXiv:0802.3341 [gr-qc], URL <http://arxiv.org/abs/0802.3341>.
35. M. C. Washik, J. Healy, F. Herrmann, I. Hinder, D. M. Shoemaker, P. Laguna, and R. A. Matzner, *Binary-black-hole encounters, gravitational bursts, and maximum final spin*, Phys. Rev. Lett. **101**, 061102 (2008), arXiv:0802.2520 [gr-qc], URL <http://arxiv.org/abs/0802.2520>.
36. E. Bentivegna, D. M. Shoemaker, I. Hinder, , and F. Herrmann, *Probing the binary black hole merger regime with scalar perturbations*, Phys. Rev. D **77**, 124016 (2008), arXiv:0801.3478 [gr-qc], URL <http://arxiv.org/abs/0801.3478>.
37. L. Rezzolla, E. Barausse, E. N. Dorband, D. Pollney, C. Reisswig, J. Seiler, and S. Husa, *Final spin from the coalescence of two black holes*, Phys. Rev. D **78**, 044002 (2008), arXiv:0712.3541 [gr-qc], URL <http://arxiv.org/abs/0712.3541>.
38. T. Damour, A. Nagar, E. N. Dorband, D. Pollney, and L. Rezzolla, *Faithful effective-one-body waveforms of equal-mass coalescing black-hole binaries*, Phys. Rev. D **77**, 084017 (2008), arXiv:0712.3003 [gr-qc], URL <http://arxiv.org/abs/0712.3003>.
39. D. M. Shoemaker, B. Vaishnav, I. Hinder, and F. Herrmann, *Numerical relativity meets data analysis: spinning binary black hole case*, Class. Quantum Grav. **25**, 114047 (2008), arXiv:0802.4427 [gr-qc], URL <http://arxiv.org/abs/0802.4427>.
40. B. Zink, E. Schnetter, and M. Tiglio, *Multi-patch methods in general relativistic astrophysics - I. Hydrodynamical flows on fixed backgrounds*, Phys. Rev. D **77**, 103015 (2008), arXiv:0712.0353 [astro-ph], URL <http://arxiv.org/abs/0712.0353>.
41. E. Berti, V. Cardoso, J. A. González, U. Sperhake, and B. Brügmann, *Multipolar analysis of spinning binaries*, Class. Quantum Grav. **25**, 114035 (2008), arXiv:0711.1097 [gr-qc], URL <http://arxiv.org/abs/0711.1097>.

42. T. Bode, D. Shoemaker, F. Herrmann, and I. Hinder, *Robustness of binary black hole mergers in the presence of spurious radiation*, Phys. Rev. D **78**, 044027 (2008), arXiv:0711.0669 [gr-qc], URL <http://arxiv.org/abs/0711.0669>.
43. I. Hinder, B. Vaishnav, F. Herrmann, D. M. Shoemaker, and P. Laguna, *Circularization and final spin in eccentric binary black hole inspirals*, Phys. Rev. D **77**, 081502(R) (2008), arXiv:0710.5167 [gr-qc], URL <http://arxiv.org/abs/0710.5167>.
44. L. Boyle, M. Kesden, and S. Nissanke, *Binary black hole merger: symmetry and the spin expansion*, Phys. Rev. Lett. **100**, 151101 (2008), arXiv:0709.0299 [gr-qc], URL <http://arxiv.org/abs/0709.0299>.
45. U. Sperhake, E. Berti, V. Cardoso, J. A. González, B. Brügmann, and M. Ansorg, *Eccentric binary black-hole mergers: The transition from inspiral to plunge in general relativity*, Phys. Rev. D **78**, 064069 (2008), arXiv:0710.3823 [gr-qc], URL <http://arxiv.org/abs/0710.3823>.
46. L. Rezzolla, P. Diener, E. N. Dorband, D. Pollney, C. Reisswig, E. Schnetter, and J. Seiler, *The final spin from the coalescence of aligned-spin black-hole binaries*, Astrophys. J. Lett. **674**, L29 (2008), arXiv:0710.3345 [gr-qc], URL <http://arxiv.org/abs/0710.3345>.
47. P. Ajith, S. Babak, Y. Chen, M. Hewitson, B. Krishnan, A. M. Sintes, J. T. Whelan, B. Brügmann, P. Diener, E. N. Dorband, J. González, M. Hannam, S. Husa, D. Pollney, L. Rezzolla, L. Santamaría, U. Sperhake, and J. Thornburg, *A template bank for gravitational waveforms from coalescing binary black holes: I. non-spinning binaries*, Phys. Rev. D **77**, 104017 (2008), arXiv:0710.2335 [gr-qc], URL <http://arxiv.org/abs/0710.2335>.
48. M. Campanelli, C. O. Lousto, and Y. Zlochower, *Close encounters of three black holes*, Phys. Rev. D **77**, 101501(5) (2008), arXiv:0710.0879 [gr-qc], URL <http://arxiv.org/abs/0710.0879>.
49. A. Buonanno, L. E. Kidder, and L. Lehner, *Estimating the final spin of a binary black hole coalescence*, Phys. Rev. D **77**, 026004 (2008), arXiv:0709.3839 [astro-ph], URL <http://arxiv.org/abs/0709.3839>.
50. D. Stark, G. Allen, T. Goodale, T. Radke, and E. Schnetter, *An extensible timing infrastructure for adaptive large-scale applications*, in *Parallel Processing and Applied Mathematics*, edited by R. Wyrzykowski (Springer, 2008), vol. 4967 of *Lecture Notes in Computer Science*, pp. 1170–1179, arXiv:0705.3015 [cs.PF], URL <http://arxiv.org/abs/0705.3015>.
51. D. Pollney, C. Reisswig, L. Rezzolla, B. Szilágyi, M. Ansorg, B. Deris, P. Diener, E. N. Dorband, M. Koppitz, A. Nagar, and E. Schnetter, *Recoil velocities from equal-mass binary black-hole mergers: a systematic investigation of spin-orbit aligned configurations*, Phys. Rev. D **76**, 124002 (2007), arXiv:0707.2559 [gr-qc], URL <http://arxiv.org/abs/0707.2559>.
52. C. O. Lousto and Y. Zlochower, *Further insight into gravitational recoil*, Phys. Rev. D **77**, 044028 (2008), arXiv:0708.4048 [gr-qc], URL <http://arxiv.org/abs/0708.4048>.
53. L. Rezzolla, E. N. Dorband, C. Reisswig, P. Diener, D. Pollney, E. Schnetter, and B. Szilágyi, *Spin diagrams for equal-mass black-hole binaries with aligned spins*, Astrophys. J. **679**, 1422 (2008), arXiv:0708.3999 [gr-qc], URL <http://arxiv.org/abs/0708.3999>.
54. B. Brügmann, J. A. González, M. Hannam, S. Husa, and U. Sperhake, *Exploring black hole superkicks*, Phys. Rev. D **77**, 124047 (2008), arXiv:0707.0135 [gr-qc], URL <http://arxiv.org/abs/0707.0135>.

55. D. Brown, O. Sarbach, E. Schnetter, M. Tiglio, P. Diener, I. Hawke, and D. Pollney, *Excision without excision*, Phys. Rev. D **76**, 081503(R) (2007), arXiv:0707.3101 [gr-qc], URL <http://arxiv.org/abs/0707.3101>.
56. B. Krishnan, C. O. Lousto, and Y. Zlochower, *Quasi-local linear momentum in black-hole binaries*, Phys. Rev. D **76**, 081501(R) (2007), arXiv:0707.0876 [gr-qc], URL <http://arxiv.org/abs/0707.0876>.
57. F. Herrmann, I. Hinder, D. M. Shoemaker, P. Laguna, and R. A. Matzner, *Binary black holes: Spin dynamics and gravitational recoil*, Phys. Rev. D **76**, 084032 (2007), arXiv:0706.2541 [gr-qc], URL <http://arxiv.org/abs/0706.2541>.
58. B. Vaishnav, I. Hinder, F. Herrmann, and D. M. Shoemaker, *Matched filtering of numerical relativity templates of spinning binary black holes*, Phys. Rev. D **76**, 084020 (2007), arXiv:0705.3829 [gr-qc], URL <http://arxiv.org/abs/0705.3829>.
59. P. Ajith, S. Babak, Y. Chen, M. Hewitson, B. Krishnan, J. T. Whelan, B. Brügmann, P. Diener, J. González, M. Hannam, S. Husa, M. Koppitz, D. Pollney, L. Rezzolla, L. Santamaría, A. M. Sintes, U. Sperhake, and J. Thornburg, *Phenomenological template family for black-hole coalescence waveforms*, Class. Quantum Grav. **24**, S689 (2007), arXiv:0704.3764 [gr-qc], URL <http://arxiv.org/abs/0704.3764>.
60. J. Thornburg, P. Diener, D. Pollney, L. Rezzolla, E. Schnetter, E. Seidel, and R. Takahashi, *Are moving punctures equivalent to moving black holes?*, Class. Quantum Grav. **24**, 3911 (2007), arXiv:gr-qc/0701038, URL <http://arxiv.org/abs/gr-qc/0701038>.
61. J. A. González, M. D. Hannam, U. Sperhake, B. Brügmann, and S. Husa, *Supermassive recoil velocities for binary black-hole mergers with antialigned spins*, Phys. Rev. Lett. **98**, 231101 (2007), arXiv:gr-qc/0702052, URL <http://arxiv.org/abs/gr-qc/0702052>.
62. M. Campanelli, C. O. Lousto, Y. Zlochower, and D. Merritt, *Maximum gravitational recoil*, Phys. Rev. Lett. **98**, 231102 (2007), arXiv:gr-qc/0702133, URL <http://arxiv.org/abs/gr-qc/0702133>.
63. M. Campanelli, C. O. Lousto, Y. Zlochower, and D. Merritt, *Large merger recoils and spin flips from generic black-hole binaries*, Astrophys. J. Lett. **659**, L5 (2007), arXiv:gr-qc/0701164.
64. F. Herrmann, I. Hinder, D. M. Shoemaker, P. Laguna, and R. A. Matzner, *Gravitational recoil from spinning binary black hole mergers*, Astrophys. J. **661**, 430 (2007), arXiv:gr-qc/0701143, URL <http://arxiv.org/abs/gr-qc/0701143>.
65. M. Koppitz, D. Pollney, C. Reisswig, L. Rezzolla, J. Thornburg, P. Diener, and E. Schnetter, *Recoil velocities from equal-mass binary-black-hole mergers*, Phys. Rev. Lett. **99**, 041102 (2007), arXiv:gr-qc/0701163, URL <http://arxiv.org/abs/gr-qc/0701163>.
66. P. Marronetti, W. Tichy, B. Brügmann, J. González, M. Hannam, S. Husa, and U. Sperhake, *Binary black holes on a budget: simulations using workstations*, Class. Quantum Grav. **24**, S45 (2007), arXiv:gr-qc/0701123, URL <http://arxiv.org/abs/gr-qc/0701123>.
67. B. Giacomazzo and L. Rezzolla, *WhiskyMHD: a new numerical code for general relativistic magnetohydrodynamics*, Class. Quantum Grav. **24**, S235 (2007), arXiv:gr-qc/0701109, URL <http://arxiv.org/abs/gr-qc/0701109>.

68. F. Herrmann, I. Hinder, D. M. Shoemaker, and P. Laguna, *Unequal mass binary black hole plunges and gravitational recoil*, *Class. Quantum Grav.* **24**, S33 (2007), arXiv:gr-qc/0601026, URL <http://arxiv.org/abs/gr-qc/0601026>.
69. J. G. Baker, M. Campanelli, F. Pretorius, and Y. Zlochower, *Comparisons of binary black hole merger waveforms*, *Class. Quantum Grav.* **24**, S25 (2007), arXiv:gr-qc/0701016, URL <http://arxiv.org/abs/gr-qc/0701016>.
70. E. Pazos, E. N. Dorband, A. Nagar, C. Palenzuela, E. Schnetter, and M. Tiglio, *How far away is far enough for extracting numerical waveforms, and how much do they depend on the extraction method?*, *Class. Quantum Grav.* **24**, S341 (2007), arXiv:gr-qc/0612149, URL <http://arxiv.org/abs/gr-qc/0612149>.
71. B. Szilágyi, D. Pollney, L. Rezzolla, J. Thornburg, and J. Winicour, *An explicit harmonic code for black-hole evolution using excision*, *Class. Quantum Grav.* **24**, S275 (2007), arXiv:gr-qc/0612150, URL <http://arxiv.org/abs/gr-qc/0612150>.
72. L. Baiotti, I. Hawke, and L. Rezzolla, *On the gravitational radiation from the collapse of neutron stars to rotating black holes*, *Class. Quantum Grav.* **24**, S187 (2007), arXiv:gr-qc/0701043, URL <http://arxiv.org/abs/gr-qc/0701043>.
73. C. D. Ott, H. Dimmelmeier, A. Marek, H.-T. Janka, B. Zink, I. Hawke, and E. Schnetter, *Rotating collapse of stellar iron cores in general relativity*, *Class. Quantum Grav.* **24**, S139 (2007), arXiv:astro-ph/0612638, URL <http://arxiv.org/abs/astro-ph/0612638>.
74. B. Zink, N. Stergioulas, I. Hawke, C. D. Ott, E. Schnetter, and E. Müller, *Non-axisymmetric instability and fragmentation of general relativistic quasitoroidal stars*, *Phys. Rev. D* **76**, 024019 (2007), arXiv:astro-ph/0611601, URL <http://arxiv.org/abs/astro-ph/0611601>.
75. B. Brügmann, J. A. González, M. Hannam, S. Husa, U. Sperhake, and W. Tichy, *Calibration of moving puncture simulations*, *Phys. Rev. D* **77**, 024027 (2008), arXiv:gr-qc/0610128, URL <http://arxiv.org/abs/gr-qc/0610128>.
76. C. Reisswig, N. T. Bishop, C. W. Lai, J. Thornburg, and B. Szilágyi, *Characteristic evolutions in numerical relativity using six angular patches*, *Class. Quantum Grav.* **24**, S327 (2007), arXiv:gr-qc/0610019, URL <http://arxiv.org/abs/gr-qc/0610019>.
77. C. D. Ott, H. Dimmelmeier, A. Marek, H.-T. Janka, I. Hawke, B. Zink, and E. Schnetter, *3D collapse of rotating stellar iron cores in general relativity including deleptonization and a nuclear equation of state*, *Phys. Rev. Lett.* **98**, 261101 (2007), arXiv:astro-ph/0609819, URL <http://arxiv.org/abs/astro-ph/0609819>.
78. L. Baiotti and L. Rezzolla, *Challenging the paradigm of singularity excision in gravitational collapse*, *Phys. Rev. Lett.* **97**, 141101 (2006), arXiv:gr-qc/0608113, URL <http://arxiv.org/abs/gr-qc/0608113>.
79. E. N. Dorband, E. Berti, P. Diener, E. Schnetter, and M. Tiglio, *A numerical study of the quasi-normal mode excitation of kerr black holes*, *Phys. Rev. D* **74**, 084028 (2006), arXiv:gr-qc/0608091, URL <http://arxiv.org/abs/gr-qc/0608091>.
80. F. Löffler, L. Rezzolla, and M. Ansorg, *Numerical evolutions of a black hole-neutron star system in full general relativity: Head-on collision*, *Phys. Rev. D* **74**, 104018 (2006), arXiv:gr-qc/0606104, URL <http://arxiv.org/abs/gr-qc/0606104>.

81. U. Sperhake, *Binary black-hole evolutions of excision and puncture data*, Phys. Rev. D **76**, 104015 (2007), arXiv:gr-qc/0606079, URL <http://arxiv.org/abs/gr-qc/0606079>.
82. E. Schnetter, B. Krishnan, and F. Beyer, *Introduction to dynamical horizons in numerical relativity*, Phys. Rev. D **74**, 024028 (2006), arXiv:gr-qc/0604015, URL <http://arxiv.org/abs/gr-qc/0604015>.
83. C. F. Sopuerta, U. Sperhake, and P. Laguna, *Hydro-without-hydro framework for simulations of black hole-neutron star binaries*, Class. Quantum Grav. **23**, S579 (2006), arXiv:gr-qc/0605018, URL <http://arxiv.org/abs/gr-qc/0605018>.
84. E. Schnetter, P. Diener, E. N. Dorband, and M. Tiglio, *A multi-block infrastructure for three-dimensional time-dependent numerical relativity*, Class. Quantum Grav. **23**, S553 (2006), arXiv:gr-qc/0602104, URL <http://arxiv.org/abs/gr-qc/0602104>.
85. P. Diener, E. N. Dorband, E. Schnetter, and M. Tiglio, *Optimized high-order derivative and dissipation operators satisfying summation by parts, and applications in three-dimensional multi-block evolutions*, J. Sci. Comput. **32**, 109 (2007), arXiv:gr-qc/0512001, URL <http://arxiv.org/abs/gr-qc/0512001>.
86. P. Diener, F. Herrmann, D. Pollney, E. Schnetter, E. Seidel, R. Takahashi, J. Thornburg, and J. Ventrella, *Accurate evolution of orbiting binary black holes*, Phys. Rev. Lett. **96**, 121101 (2006), arXiv:gr-qc/0512108, URL <http://arxiv.org/abs/gr-qc/0512108>.
87. U. Sperhake, B. Kelly, P. Laguna, K. L. Smith, and E. Schnetter, *Black hole head-on collisions and gravitational waves with fixed mesh-refinement and dynamic singularity excision*, Phys. Rev. D **71**, 124042 (2005), arXiv:gr-qc/0503071, URL <http://arxiv.org/abs/gr-qc/0503071>.
88. B. Zink, N. Stergioulas, I. Hawke, C. D. Ott, E. Schnetter, and E. Müller, *Formation of supermassive black holes through fragmentation of torodial supermassive stars*, Phys. Rev. Lett. **96**, 161101 (2006), arXiv:gr-qc/0501080, URL <http://arxiv.org/abs/gr-qc/0501080>.
89. L. Baiotti, I. Hawke, L. Rezzolla, and E. Schnetter, *Gravitational-wave emission from rotating gravitational collapse in three dimensions*, Phys. Rev. Lett. **95**, 131101 (2005), arXiv:gr-qc/0503016, URL <http://arxiv.org/abs/gr-qc/0503016>.
90. E. Schnetter, S. H. Hawley, and I. Hawke, *Evolutions in 3d numerical relativity using fixed mesh refinement*, Class. Quantum Grav. **21**, 1465 (2004), arXiv:gr-qc/0310042, URL <http://arxiv.org/abs/gr-qc/0310042>.

Book Chapters

1. E. Schnetter, C. D. Ott, G. Allen, P. Diener, T. Goodale, T. Radke, E. Seidel, and J. Shalf, *Cactus Framework: Black holes to gamma ray bursts*, in *Petascale Computing: Algorithms and Applications*, edited by D. A. Bader (Chapman & Hall/CRC, 2007), Computational Science Series, chap. 24, pp. 507–528, ISBN 9781584889090, arXiv:0707.1607 [cs.DC], URL <http://arxiv.org/abs/0707.1607>.

Theses

1. C. Reisswig, *Binary black hole mergers and novel approaches to gravitational wave extraction in numerical relativity*, Ph.D. thesis, Leibniz Universität Hannover (2010), URL http://www.nullinfinity.net/~reisswig/phd_thesis_published_christian_reisswig.pdf.
2. J. Seiler, *Numerical simulation of binary black hole spacetimes and a novel approach to outer boundary conditions*, Ph.D. thesis, Gottfried Wilhelm Leibniz Universität Hannover (2010), URL <http://dl.dropbox.com/u/2021645/thesis.pdf>.
3. E. Pazos, *Numerical studies on new techniques for gravitational wave extraction and binary black hole simulations*, Ph.D. thesis, University of Maryland (2009), URL <http://hdl.handle.net/1903/9974>.
4. E. Bentivegna, *Ringing in unison: exploring black hole coalescence with quasinormal modes*, Ph.D. thesis, Pennsylvania State University (2008), URL <http://etda.libraries.psu.edu/theses/approved/WorldWideIndex/ETD-2570/index.html>.
5. M. Jasiulek, *Spin measures on isolated and dynamical horizons in numerical relativity*, Master's thesis, Humboldt-Universität zu Berlin (2008).
6. E. N. Dorband, *Computing and analyzing gravitational radiation in black hole simulations using a new multi-block approach to numerical relativity*, Ph.D. thesis, Louisiana State University (2007), URL <http://www.cct.lsu.edu/~dorband/thesis.pdf>.
7. W. Kastaun, *Developing a code for general relativistic hydrodynamics with application to neutron star oscillations*, Ph.D. thesis, Universität Tübingen (2007), URL <http://tobias-lib.uni-tuebingen.de/volltexte/2007/2803/>.
8. G. M. Manca, *Dynamical instabilities in rapidly rotating neutron star models*, Ph.D. thesis, Università di Parma (2007).
9. C. D. Ott, *Stellar iron core collapse in $\{3+1\}$ general relativity and the gravitational wave signature of core-collapse supernovae*, Ph.D. thesis, Universität Potsdam (2007), URL http://stellarcollapse.org/papers/thesis_final.pdf.
10. A. Zenginoğlu, *A conformal approach to numerical calculations of asymptotically flat spacetimes*, Ph.D. thesis, Universität Potsdam (2007), arXiv:0711.0873 [gr-qc], URL <http://arxiv.org/abs/0711.0873>.
11. F. Löffler, *Numerical simulations of neutron star-black hole mergers*, Ph.D. thesis, Universität Potsdam (2006), URL <http://opus.kobv.de/ubp/volltexte/2006/774/>.
12. S. Madiraju, *Performance profiling with Cactus benchmarks*, Master's thesis, Louisiana State University (2006), URL http://www.cactuscode.org/Articles/Cactus_Madiraju06.pdf.
13. B. Zink, *Black hole formation from non-axisymmetric instabilities in quasi-toroidal stars*, Ph.D. thesis, Technische Universität München (2006), URL <http://nbn-resolving.de/urn/resolver.pl?urn=urn:nbn:de:bvb:91-diss20060623-1915123970>.
14. F. Herrmann, *Evolution and analysis of binary black hole spacetimes*, Ph.D. thesis, Universität Potsdam (2005).
15. M. Koppitz, *Numerical studies of black hole initial data*, Ph.D. thesis, Universität Potsdam (2004), URL <http://opus.kobv.de/ubp/volltexte/2005/134/>.

Conference Proceedings and Technical Reports

1. B. Zink, N. Stergioulas, I. Hawke, C. D. Ott, E. Schnetter, and E. Müller, *Rotational instabilities in supermassive stars: a new way to form supermassive black holes*, in *International Scientific Workshop on Cosmology and Gravitational Physics, Thessaloniki, December 15-16, 2005*, edited by N. K. Spyrou, N. Stergioulas, and C. Tsagas (ZITI, 2006), pp. 155–160.
2. I. Hinder, *The current status of binary black hole simulations in numerical relativity* (2010), arXiv:1001.5161 [gr-qc], URL <http://arxiv.org/abs/1001.5161>.
3. U. Sperhake, V. Cardoso, F. Pretorius, E. Berti, T. Hinderer, and N. Yunes, *Ultra-relativistic grazing collisions of black holes* (2010), arXiv:1003.0882 [gr-qc], URL <http://arxiv.org/abs/1003.0882>.
4. G. Corvino, L. Rezzolla, S. Bernuzzi, R. D. Pietri, and B. Giacomazzo, *On the shear instability in relativistic neutron stars* (2010), arXiv:1001.5281 [gr-qc], URL <http://arxiv.org/abs/1001.5281>.
5. M. D. Duez, *Numerical relativity confronts compact neutron star binaries: a review and status report* (2009), arXiv:0912.3529 [astro-ph.HE], URL <http://arxiv.org/abs/0912.3529>.
6. D. Pollney, C. Reisswig, E. Schnetter, N. Dorband, and P. Diener, *High accuracy binary black hole simulations with an extended wave zone* (2009), arXiv:0910.3803 [gr-qc], URL <http://arxiv.org/abs/0910.3803>.
7. P. Ajith, M. Hannam, S. Husa, Y. Chen, B. Brügmann, N. Dorband, D. Müller, F. Ohme, D. Pollney, C. Reisswig, L. Santamaría, and J. Seiler, *“complete” gravitational waveforms for black-hole binaries with non-precessing spins* (2009), arXiv:0909.2867 [gr-qc], URL <http://arxiv.org/abs/0909.2867>.
8. G. Lovelace, Y. Chen, M. Cohen, J. D. Kaplan, D. Keppel, K. D. Matthews, D. A. Nichols, M. A. Scheel, and U. Sperhake, *Momentum flow in black-hole binaries: II. Numerical simulations of equal-mass, head-on mergers with antiparallel spins* (2009), arXiv:0907.0869 [gr-qc], URL <http://arxiv.org/abs/0907.0869>.
9. J. Healy, P. Laguna, R. A. Matzner, and D. M. Shoemaker, *Final mass and spin of merged black holes and the golden black hole* (2009), arXiv:0905.3914 [gr-qc], URL <http://arxiv.org/abs/0905.3914>.
10. C. O. Lousto, M. Campanelli, and Y. Zlochower, *Remnant masses, spins and recoils from the merger of generic black-hole binaries* (2009), arXiv:0904.3541 [gr-qc], URL <http://arxiv.org/abs/0904.3541>.
11. S. Bernuzzi, L. Baiotti, G. Corvino, R. D. Pietri, and A. Nagar, *Gravitational-wave extraction from neutron-star oscillations* (2009), arXiv:0902.2720 [gr-qc], URL <http://arxiv.org/abs/0902.2720>.
12. H. Nakano, M. Campanelli, C. O. Lousto, and Y. Zlochower, *Comparison of post-Newtonian and numerical evolutions of black-hole binaries* (2009), arXiv:0901.3861 [gr-qc], URL <http://arxiv.org/abs/0901.3861>.

13. J. Tao, G. Allen, I. Hinder, E. Schnetter, and Y. Zlochower, *XiRel: Standard benchmarks for numerical relativity codes using Cactus and Carpet*, Tech. Rep. 5, Center for Computation & Technology, Louisiana State University (2008), URL <http://www.cct.lsu.edu/CCT-TR/CCT-TR-2008-5>.
14. I. Hinder, F. Herrmann, P. Laguna, and D. Shoemaker, *Comparisons of eccentric binary black hole simulations with post-Newtonian models* (2008), arXiv:0806.1037 [gr-qc], URL <http://arxiv.org/abs/0806.1037>.
15. J. G. Baker, W. D. Boggs, J. M. Centrella, B. J. Kelly, S. T. McWilliams, and J. R. van Meter, *Gravitational waves from black-hole mergers*, in *Proceedings of the 2007 Spring Symposium of the Space Telescope Science Institute (Baltimore, MD)* (2007), p. (to be published), arXiv:0708.4202 [astro-ph], URL <http://arxiv.org/abs/0708.4202>.
16. L. Baiotti, I. Hawke, L. Rezzolla, and E. Schnetter, *Details on the gravitational-wave emission from rotating gravitational collapse in 3D*, in *XXIXth Spanish Relativity Meeting (E.R.E. 2006)* (2007), vol. 66 of *J. Phys.: Conf. Ser.*, p. 012045, URL <http://stacks.iop.org/JPCConf/66/012045>.
17. U. Sperhake, *Black-hole binary evolutions with the LEAN code*, in *XXIXth Spanish Relativity Meeting (E.R.E. 2006)* (2007), vol. 66 of *J. Phys.: Conf. Ser.*, p. 012049, URL <http://stacks.iop.org/JPCConf/66/012049>.
18. J. A. Font, *Current status of relativistic core collapse simulations*, in *XXIXth Spanish Relativity Meeting (E.R.E. 2006)* (2007), vol. 66 of *J. Phys.: Conf. Ser.*, p. 012063, URL <http://stacks.iop.org/JPCConf/66/012063>.
19. U. Sperhake, B. Brügmann, J. González, M. Hannam, and S. Husa, *Head-on collisions of different initial data*, in *Proceedings of the 11th Marcel Grossmann Meeting (MG11) in Berlin, Germany, July 23-29, 2006* (2007), arXiv:0705.2035 [gr-qc], URL <http://arxiv.org/abs/0705.2035>.
20. B. Zink, N. Stergioulas, I. Hawke, C. D. Ott, E. Schnetter, and E. Müller, *Fragmentation of general relativistic quasi-toroidal polytropes*, in *Proceedings of the 11th Marcel Grossmann Meeting (MG11) in Berlin, Germany, July 23-29, 2006* (2007), arXiv:0704.0431 [gr-qc], URL <http://arxiv.org/abs/0704.0431>.
21. B. Zink, N. Stergioulas, I. Hawke, C. D. Ott, E. Schnetter, and E. Müller, *Supermassive black hole formation through rotational instabilities*, in *12th Conference on Recent Developments in Gravity (NEB XII)* (2007), vol. 68 of *J. Phys.: Conf. Ser.*, p. 012050, URL <http://stacks.iop.org/JPCConf/68/012050>.