

Cactus Publications

Note: The sections below have some overlap. For example, a performance monitoring tool that is part of Cactus would be listed both in the *Cactus* and the *Performance Tools* sections.

Publications and Web Pages about the Cactus Framework

1. B. Talbot, S. Zhou, and G. Higgins, *Software Engineering Support of the Third Round of Scientific Grand Challenge Investigations, An Earth Modelling System Software Framework Strawman Design that Integrates Cactus and UCLA/UCB Distributed Data Broker - Task 5 Final Report*, NASA (2002), URL <http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20020068%943.2002111113.pdf>.
2. B. Talbot, S. Zhou, and G. Higgins, *Review of the Cactus Framework*, Task 4 Report: Earth System Modeling Framework Survey, Software Engineering Support of the Third Round of Scientific Grand Challenge Investigations (2000), URL http://ct.gsfc.nasa.gov/esmf_tasc/Files/Cactus_b.html.
3. 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* (Springer, 2003), URL <http://www.springerlink.com/content/2fapcbeyyc1xg0mm/>.
4. E. Schnetter, C. Ott, G. Allen, P. Diener, T. Goodale, T. Radke, E. Seidel, and J. Shalf, *Cactus framework: Black holes to gamma ray bursts*, CoRR **abs/0707.1607** (2007).
5. D. Stark, G. Allen, T. Goodale, T. Radke, and E. Schnetter, *An extensible timing infrastructure for adaptive large-scale applications*, CoRR **abs/0705.3015** (2007).
6. G. Allen, T. Dramlitsch, I. Foster, N. Karonis, M. Ripeanu, E. Seidel, and B. Toonen, *Supporting efficient execution in heterogeneous distributed computing environments with cactus and globus*, in *Proceedings of Supercomputing 2001* (Denver, USA, 2001), URL <http://portal.acm.org/citation.cfm?coll=GUIDE&dl=GUIDE&id=582%086>.
7. *Mesh refinement with Carpet*, URL <http://www.carpetcode.org/>.
8. *Cactus Computational Toolkit*, URL <http://www.cactuscode.org/>.

Numerical Relativity Publications

1. N. Stergioulas and I. Hawke, *Equilibrium and pulsations of rotating stars in numerical relativity*, in *Recent Developments in Gravity, Proceedings of the 10th Hellenic Relativity Conference*, edited by K. D. Kokkotas and N. Stergioulas (World Scientific, Singapore, 2003), p. 185.
2. Y. Zlochower, J. Baker, M. Campanelli, and C. Lousto, *Accurate black hole evolutions by fourth-order numerical relativity*, *Physical Review D* **72**, 024021 (2005), gr-qc/0505055, URL <http://arXiv.org/abs/gr-qc/0505055>.

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4. B. Zink, E. Schnetter, and M. Tiglio, *Multi-patch methods in general relativistic astrophysics - I. Hydrodynamical flows on fixed backgrounds*, *Phys. Rev.* **D77**, 103015 (2008), 0712.0353.
5. B. Zink, N. Stergioulas, I. Hawke, C. D. Ott, E. Schnetter, and E. Müller, *Black hole formation through fragmentation of toroidal polytropes* (2005), gr-qc/0501080, URL <http://arxiv.org/abs/gr-qc/0501080>.
6. D. N. Vulcanov, *Doing numerical cosmology with the cactus code* (2002), gr-qc/0210006, URL <http://arXiv.org/abs/gr-qc/0210006>.
7. D. N. Vulcanov and M. Alcubierre, *Testing the Cactus Code on Exact Solutions of the Einstein Field Equations*, *International Journal of Modern Physics C* **13(6)**, 805 (2002), URL <http://www.worldscinet.com/ijmpc/13/1306/S0129183102003577.ht%ml>.
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9. M. Tiglio, L. Lehner, and D. Neilsen, *3d simulations of einstein's equations: symmetric hyperbolicity, live gauges and dynamic control of the constraints*, *Physical Review D* **70**, 104018 (2004), gr-qc/0312001, URL <http://arXiv.org/abs/gr-qc/0312001>.
10. W. Tichy, B. Brüggmann, M. Campanelli, and P. Diener, *Binary black hole initial data for numerical general relativity based on post-newtonian data*, *Physical Review D* **67**, 064008 (2003), gr-qc/0207011, URL <http://arXiv.org/abs/gr-qc/0207011>.
11. J. Thornburg, *A Fast Apparent-Horizon Finder for 3-Dimensional Cartesian Grids in Numerical Relativity*, *Class. Quantum Grav.* **21**, 743 (2004), gr-qc/0306056, URL <http://stacks.iop.org/0264-9381/21/743>.
12. J. Thornburg, *Event and apparent horizon finders for 3+1 numerical relativity* (2005), gr-qc/0512169.
13. B. Szilagyi and J. Winicour, *Well-posed initial-boundary evolution in general relativity*, *Physical Review D* **68**, 041501 (2003), gr-qc/0205044, URL <http://arXiv.org/abs/gr-qc/0205044>.
14. N. Stergioulas and J. A. Font, *Nonlinear r-modes in rapidly rotating relativistic stars*, *Physical Review Letters* **86**, 1148 (2001), gr-qc/0007086, URL <http://arXiv.org/abs/gr-qc/0007086>.
15. U. Sperhake, B. Brugmann, J. A. Gonzalez, M. D. Hannam, and S. Husa, *Head-On collisions of different initial data* (2007), 0705.2035.
16. U. Sperhake et al., *Eccentric binary black-hole mergers: The transition from inspiral to plunge in general relativity*, *Phys. Rev.* **D78**, 064069 (2008), 0710.3823.
17. U. Sperhake, *Binary black-hole evolutions of excision and puncture data* (2006), gr-qc/0606079.
18. 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*, *Physical Review D* **71**, 124042 (2005), gr-qc/0503071, URL <http://arXiv.org/abs/gr-qc/0503071>.

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