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Software Update Released to Einstein Toolkit

LSU Media Center

BATON ROUGE – The LSU Center for Computation & Technology's Frameworks Group is proud to announce the 11th release of the Einstein Toolkit – an open, community developed software infrastructure for relativistic astrophysics.

This release includes, among other things, various improvements in the handling of external libraries – and with that, installations – that discontinue the direct support for Fortran 77, moving to Fortran 90 instead. The update also enables the C++ code in GRHydro by default. In addition, bug fixes accumulated since the previous release in November 2014 have been included.

For more detailed information about the new release, visit http://einsteintoolkit.org/about/releases/ET_2015_05_announcement.php.

The Einstein Toolkit is a collection of software components and tools for simulating and analyzing general relativistic astrophysical systems that builds on numerous software efforts in the numerical relativity community including CactusEinstein, the Carpet AMR infrastructure and the relativistic magneto-hydrodynamics code GRHydro. The Cactus Framework is used as the underlying computational infrastructure providing large-scale parallelization, general computational components and a model for collaborative, portable code development. The toolkit includes modules to build complete codes for simulating black hole spacetimes as well as systems governed by relativistic magneto-hydrodynamics

The Einstein Toolkit uses a distributed software model and its different modules are developed, distributed and supported either by the core team of Einstein Toolkit Maintainers, or by individual groups. Where modules are provided by external groups, the Einstein Toolkit Maintainers provide quality control for modules for inclusion in the toolkit and help coordinate support.

The Einstein Toolkit Maintainers currently involve post-doctorates and faculty from six different institutions, and host weekly meetings that are open for anyone to join in.

Guiding principles for the design and implementation of the toolkit include open, community-driven software development; well thought out and stable interfaces; separation of physics software from computational science infrastructure; provision of complete working production code; training and education for a new generation of researchers.

For more information about using or contributing to the Einstein Toolkit, or to join the Einstein Toolkit Consortium, visit http://einsteintoolkit.org.

For more information about LSU CCT, visit www.cct.lsu.edu.

Aaron Looney
LSU Media Relations
225-578-3871
alooney@lsu.edu

Publish Date:
5-22-2015