SpECTRE: A task-based discontinuous Galerkin code for relativistic astrophysics

LAWRENCE KIDDER, Cornell Univ, SIMULATING EXTREME SPACETIMES COLLABORATION — We provide an update on the development of SpECTRE (https://github.com/sxs-collaboration/spectre), a new open-source relativistic astrophysics code that combines a discontinuous Galerkin method with a task-based parallelism model. SpECTRE’s goal is to achieve more accurate solutions for challenging relativistic astrophysics problems such as core-collapse supernovae and binary neutron star mergers, while making efficient use of the largest supercomputers.

We acknowledge support from NSF PHY-1606654 and the Sherman Fairchild Foundation

Lawrence Kidder
Cornell Univ

Date submitted: 12 Jan 2018