# CSSI Element: A task-based code for multiphysics problems in astrophysics at exascale
PI: Saul Teukolsky, Co-Pis: Larry Kidder, Scheel
Institutions: Cornell Caltech

Award #: 1931280

## Goal

- Development of SpECTRE, an open-source community code for multiscale probles in astrophysics and gravitational-wave physics

## Motivation

- Improved observational accuracy requires more accurate simulations
- Current codes don't scale to millions of cores

## Key Innovations

- Discontinuous Galerkin (DG) for discretization
- Task-based parallelism

## Cross-disciplinary Applications

Any field that requires large scale evolution of PDEs