

UNEXPECTED PROBLEMS (1993-2005)

- All simulations of binary black holes are numerically unstable
- No one knew why!
 - Issues with handling BH singularities?
 - Issues with coordinate choices?
 - Instabilities in the formulation of Einstein's Equations?
- Must implement many approaches to see what works

CACTUS - A MODULAR FRAMEWORK

- Funded partly by NASA's Binary Neutron Star Grand Challenge
- Developed at AEI/Cardiff/LSU, initial release in 1997
- Modular framework to separate technical infrastructure from science code to ease development of grid-based partial differential equation solvers
- Researchers need only write "thorns" that implement specific functionality

