Toward Moving Puncture Simulations with the GHG System

We present a new conformal rescaling of the generalized harmonic system. With this rescaling it should be possible to evolve black holes without excising the black hole interior, by using a puncture method similar to the one used for standard moving puncture simulations with the BSSNOK system. The rescaled system is first order in both time and space, and thus amenable for use with a discontinuous Galerkin method. We present first results for single black hole evolutions using the Nmesh code.