

NR Project at GaTech

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Initial Data for NS system

- Initial Data problem - Finding ID which mimic the astrophysical settings
- Bowen York Solutions for BBH for Momentum Constraints
- Assuming spherical symmetry, Clark et. al. recently developed similar solutions for stellar cases
- Applications - BNS, NSBH, Boosted Star etc
- Current Work - Generalizing for any equations of state and other stellar models

BNS - NSBH Simulations

- Neutron Stellar simulations require realistic equations of state and MHD.
- Developing simulations for neutron star systems using ETK and Gatech infrastructure
- The Initial data developed using previous method
- Hydro-Evolution Code - Illinois MHD / GR-Hydro codes.
- Applications - BNS, NSBH simulations etc.