Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Assessing the Readiness of Numerical Relativity for Future Detectors DEBORAH FERGUSON, Georgia Inst of Tech, KARAN JANI, Vanderbilt University, DEIRDRE SHOEMAKER, Georgia Inst of Tech — Well before the first detection of gravitational waves, numerical relativity and gravitational wave detectors were each desperately trying to improve to the point that they were prepared for such a detection. We are now at a time where we have detectors capable of observing gravitational waves and numerical relativity capable of creating theoretical models to understand the gravitational wave events. However, the detectors are continuing to improve and by 2034, the Laser Interferometer Space Antenna (LISA) is expected to fly, providing unprecedented sensitivity. With LISA expecting to see many overlapping, extremely loud signals, it is crucial that we provide waveforms accurate enough to subtract out the signals without contaminating other, quieter sources. While numerical relativity simulations have been accurate enough for current detectors, will this be the case for LISA and even third-generation ground based detectors?

Deborah Ferguson
Georgia Inst of Tech

Date submitted: 10 Jan 2020 Electronic form version 1.4