

1139-83-483

Lydia R. Bieri* (lbieri@umich.edu), University of Michigan, Department of Mathematics, Ann Arbor, MI 48109, and **David Garfinkle** and **Nicolas Yunes**. *Gravitational wave memory in LambdaCDM cosmology*.

Some of the most interesting solutions of the Einstein equations are spacetimes exhibiting gravitational radiation. A major breakthrough of General Relativity happened in 2015 with LIGO's first detection of gravitational waves. So far, most studies have been devoted to asymptotically flat systems, which applies perfectly to gravitational wave sources whose distance to the detector is small compared to the Hubble radius. However, some of the most powerful sources are at cosmological distances, and we have to study what happens in an expanding universe. In this talk, we investigate the geometric-analytic properties of various spacetimes with gravitational radiation, in particular of cosmological spacetimes. This is joint work with D. Garfinkle and N. Yunes. (Received February 19, 2018)