

Abstract Submitted
for the SES07 Meeting of
The American Physical Society

Gravitational waves, and what they can tell us about the Universe¹ LIOR M. BURKO, University of Alabama in Huntsville — Our understanding of gravitational waves has increased dramatically since Eddington wrote in 1922 that some believe they “propagate with the speed of thought.” While gravitational waves are yet to be directly detected —ignoring the orbital decay of the Hulse–Taylor binary pulsar as an *indirect* measurement— an impressive experimental effort to detect them has defied many skeptics when LIGO achieved design sensitivity. At the same time, several numerical relativity groups have succeeded in solving the “holy grail” problem: evolve a binary black hole system for a number of orbits, following the system through its merger to its final ring–down and decay to quiescence, thus predicting the gravitational waveforms that LIGO, and other experiments, will detect. In this talk I will briefly describe the breathtaking progress we have witnessed, and what the future may hold for gravitational-wave astronomy.

¹Supported in part by NASA/GSFC grant No. NCC5-580.

Lior M. Burko
University of Alabama in Huntsville

Date submitted: 17 Aug 2007

Electronic form version 1.4