Abstract Submitted
for the APR07 Meeting of
The American Physical Society

LIGO data and the stochastic gravitational wave background[1]
BERNARD WHITING, University of Florida, LIGO SCIENTIFIC COLLABORATION — From the analysis of scientific data taken in late 2002, LIGO was able to improve the constraints on $\Omega_{\rm GW}$ by a factor of order 10^4 over the best, previously available, interferometer result. With data taken in early 2005, and still not at the end of commissioning, LIGO could improve on its own first result by another factor of order 10^6. Now, with commissioning complete, and more than half way through accumulating a year of useable data, LIGO is approaching a position of being able to challenge some of the more exotic theories of the early universe. With the completion of the current data run, and the implementation of proposed upgrades to the interferometers - even enhanced LIGO - further constraints on a cosmically generated stochastic background of gravitational waves will become a reality. Practical prospects for this are presented, along with anticipated consequences for the understanding of our cosmological origins.

[1]On behalf of the LSC and supported by NSF

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Date submitted: 12 Jan 2007 Electronic form version 1.4