

Abstract Submitted
for the APR08 Meeting of
The American Physical Society

Active seismic isolation systems for Enhanced and Advanced LIGO JEFFREY KISSEL, Louisiana State University — In order to mitigate the dominant low-frequency noise source for the next generation of interferometric gravitational wave detectors, several new systems are in development that will actively isolate optics and readout sensors from ground motion. For enhanced LIGO the output mode cleaner and photodiode readouts are to be positioned on a single-stage active isolation platform which will reduce ground motion by at least a factor of 50 at 1 Hz. Advanced LIGO will include several single-stage isolation platforms and the core optics will be suspended from two-stage platforms which will suppress ground motion by a factor of 3000 at 10 Hz. We present first results from the single-stage isolation platforms now installed at the observatories and comparisons between expected and observed isolation performance.

Jeffrey Kissel
Louisiana State University

Date submitted: 22 Jan 2008

Electronic form version 1.4