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Sensitivity and Stability of the LIGO Interferometers

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Gravitational wave astronomy promises to be a surprising, new way of listening to the universe. In the past 18 months, intensive work on the kilometer scale LIGO (Laser Interferometer Gravitational-wave Observatory) interferometers has led to an order of magnitude improvement in the sensitivity of all three interferometers. Parallel efforts have yielded substantial increases in the duty cycles of the detectors and improved stationarity of the noise. The current state of the detectors will be discussed, the recent sensitivity improvements described in detail, and a path for future upgrades will be mapped out.