

SEMINAR IN PHYSICS

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3:30-4:25 - Ross 0220

~ Refreshments ~

The Next Generation of LIGO Detectors

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The next generation of LIGO detectors are the most advanced detectors used to date. The detectors are technologically ahead of the first-generation detectors on LIGO due to the systems integrated in the detector allowing more stability, precision in measurement, and a reduction of noise.

This is accomplished through a robust isolation system, a suspension system, more refined optics, and a newly designed laser. This system is a realization of a quantum limited device, where the system can make more precise measurements than that predicted by the quantum uncertainty principle. This culmination of technology used in the advanced LIGO system allowed LIGO to detect the first gravitational waves.