

Abstract Submitted
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Ongoing efforts to observe gravitational waves in the Advanced LIGO era SEAN MCWILLIAMS, West Virginia University, LIGO SCIENTIFIC COLLABORATION TEAM¹ — The Advanced Laser Interferometer Gravitational-wave Observatory (LIGO), which has recently begun operations, is the most sensitive gravitational-wave detector that has ever been constructed. This sensitivity makes the first direct detection of gravitational waves a likely possibility in the very near future. I will describe the current sensitivity, and what it means for expected detection rates. I will also discuss the important role that my research team at West Virginia University has played, and continues to play, in developing and implementing new and more efficient algorithms for modeling likely gravitational-wave sources, such as spinning and/or eccentric black-hole and neutron-star binaries, so that we can take full advantage of the detectors unprecedented sensitivity to observe and characterize gravitational-wave signals.

¹The overall effort to detect gravitational waves is undertaken by the LIGO Laboratories and members of the LIGO Scientific Collaboration. I am the PI for WVU's institutional membership, and will describe our specific contributions.

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