

COLLOQUIUM

LIGO and the Detection of Gravitational Waves

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4:00 p.m. - Wilson Hall, One West

This colloquium will discuss what gravitational waves are and how they are used to observe the universe in a new way. The history of the search for gravitational waves will be reviewed leading up to today's advanced detectors and how they operate. Most sources of detectable gravitational waves are some of the most violent, energetic events in the universe from the earliest moments after the Big Bang to the supernova death of a star. Each class of gravitational-wave sources requires unique search methods, which will also be discussed with a special focus on the binary black hole systems that were the sources of both of the first gravitational wave detections.