



Physics Colloquium



Thursday, May 12th at 3:30 pm in SC 234

Dr. Gregory Harry

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Gravitational Wave Detection and Precision Measurement

The recent detection of gravitational wave GW150914 from a binary black hole system has begun the era of gravitational astronomy. I will discuss this historic detection and some of the astronomy that is expected to be possible using this new window on the universe. I will then describe the interferometric detectors that were used to make this discovery. This will include consideration of the noise sources that limit their sensitivity; thermal noise from optical coatings, quantum noise, and direct coupling from seismic motion. Finally I will enumerate what opportunities exist for developing gravitational wave detectors with improved sensitivity including the research that must be done into improved technologies.

Refreshments 3:00-3:20 pm in SC 103