

Space Science Seminar
Tuesday, 2017 November 5
10:30 a.m.
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***Searching for Continuous Gravitational Waves
from Rotating Neutron Stars***

Dr. Meg Millhouse, University of Melbourne

Host: Dr. Tyson Littenberg
(Sponsored by ST12)

The Laser Interferometer Gravitational-wave Observatory and the Virgo interferometer have now reported numerous detections of transient gravitational-wave events from systems of merging binary black holes or neutron stars. This is only the beginning of the era of gravitational-wave astronomy, and in addition to these transient signals there are ongoing searches for continuous gravitational-wave emission from isolated rotating neutron stars. The detection of these continuous waves can lead to new insights into the interior structure of neutron stars. In this talk I will give an overview of sources of continuous gravitational waves, and the search methods used. I will introduce a computationally efficient detection algorithm based on a Hidden Markov Model, and report on a search for gravitational-wave emission from young supernova remnants using this method.

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