

Abstract Submitted
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Gravitational Radiation CHARLOTTE MIELKE, Department of Physics & Astronomy, Stony Brook University — Gravitational radiation is emitted when black holes merge or supernovae explode. If it could be detected, we might be able to "listen" to these distant events and explore new regions of the cosmos. The talk will start with a short introduction to the theory of general relativity. It will then be outlined how the Einstein field equations in the weak field limit become a wave equation when an appropriate gauge is chosen. After a brief discussion of the sources of gravitational waves, I will address their detection. Since the amplitude of a gravitational wave reaching the earth is expected to be very small, there is so far no direct evidence for gravitational waves, although there are various types of gravitational wave detectors, such as wave antennas and interferometers. However, general relativity predicts that a binary system will lose energy in form of gravitational radiation and this can actually be measured for the Hulse-Taylor Pulsar.

- Prefer Oral Session
 Prefer Poster Session

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