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## **Listening to the Universe with eLISA: A Gravitational Wave Detector in Space**

*Friday 19 July 2013 09:00 (45 minutes)*

More than 90 years ago, Einstein predicted the existence of Gravitational Waves as a consequence of his theory of General Relativity. They are minute distortions of space and time, created by rapidly accelerating large masses, and propagating at the speed of light. Several kilometer-size laser-interferometric gravitational wave detectors are currently operating on the earth. They will soon be joined by space detectors with armlengths of millions of kilometers, looking at the signals from massive black holes in the whole universe. The European Space Agency has recently called for the submission of science themes for the L2 and L3 large mission launch opportunities. This talk will describe the science theme „The Gravitational Universe“ and eLISA as strawman mission concept for its realization.

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