

EINLADUNG ZUM
WIENER PHYSIKALISCHEN KOLLOQUIUM

**LISTENING TO THE UNIVERSE WITH EINSTEIN'S
GRAVITATIONAL WAVES**

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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 the speed of light. So far, they have never been directly detected. Several kilometer-size laser-interferometric gravitational wave detectors are currently operating on the earth, and one of them is GEO600 near Hannover. They will soon be joined by space detectors with armlengths of millions of kilometers, in particular the ESA/NASA space mission LISA. These mysterious waves are emitted by coalescing binary stars, neutron stars, supernovae, Black Holes and the Big Bang itself, and their observation requires modern laser technology and measurements at the quantum mechanical detection limit.

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