

# Gravitational Wave

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Gravitational wave, which was derived from general theory of relativity, is ripple in spacetime propagating at a speed of light. Gravitational waves are emitted from accelerating objects, and have not yet been directly detected, since the distortion of spacetime caused by gravitational waves is extremely small. If gravitational waves are detected, we could reveal a new aspect of the Universe such as coalescences of black holes and the beginning of the Universe, which we have not been able to observe so far. Currently large-scale laser interferometric gravitational wave detectors, such as LIGO (US), Virgo (Europe), and KAGRA (Japan) are being constructed. We expect that in several years gravitational waves will be detected for the first time, and gravitational wave astronomy will be established.

