

# On graviton emission, and the variability of the gravitational interaction strength

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## Abstract

The emission of gravitons by a mass is considered.

## 1 On graviton emission

It is assumed that the number of gravitons emitted from a kilogram of mass per second is some finite, countable number. In other words, it is assumed that the gravitational field is, in reality, quantized.

By default, especially in weak gravitational fields, a mass is an omnidirectional graviton emitter. However, if one is to increasingly gravitationally stimulate a mass, then the stimulation will eventually turn that mass from an omnidirectional graviton emitter into a unidirectional graviton emitter. The strength of the gravitational interaction would increase by a factor of  $c^2$ , because the gravitational field (a bunch of gravitons) would be compactified from a 3+1D field down to a 1+1D beam. A unidirectional graviton emitter would be like a GASER (the gravitational analogue of the electromagnetic LASER).

To conclude: a mass reciprocates gravitons in the direction of gravitational stimulation, *in spite of* the mass's usual omnidirectional graviton emission. This effect strengthens the gravitational interaction. When the mass's graviton emission becomes fully unidirectional (or as close to unidirectional as possible), the interaction strength will have increased by a factor of  $c^2$ .

## References

- [1] Fontana G. Possible Graviton Transitions and Gaser Action in High-Tc Superconductors – <https://arxiv.org/abs/cond-mat/0208276>
- [2] Fontana G. Design of a Quantum Source of High-Frequency Gravitational Waves (HFGW) and Test Methodology – <https://arxiv.org/abs/physics/0410022>

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