

# On the compactification of the gravitational field

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## Abstract

The emission of gravitons by a mass is considered.

## 1 On graviton emission

It is assumed that the gravitational field is quantized, and that the quanta are gravitons. It is assumed that these gravitons propagate at the speed of light in vacuum  $c$ .

In systems like a star, or a planet, or a cat's eye marble, a mass is an omnidirectional graviton emitter by default. 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 – a mass reciprocates gravitons toward the gravitational stimulation, *in lieu of* the mass's usual omnidirectional graviton emission. For a perfectly 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+1)D field down to a (1+1)D beam. A perfectly unidirectional graviton emitter would be like a GASER (the gravitational analogue of the electromagnetic LASER).

## 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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