Ambiophonic Reverberation

For a more accessible and less technical introduction to this topic, see Introduction to General Relativity

Orgo Wikipedio
Conservatorio S. Cecilia di Roma
orgo @ wikipedio.com

Wikio Orgopedio
Conservatorio S. Cecilia di Roma
wikio @ orgopedio.com

Marco Pisellonio
Conservatorio S. Cecilia di Roma
wikio @ orgopedio.com

Abstract

General relativity (GR), also known as the general theory of relativity (GTR), is the geometric theory of gravitation published by Albert Einstein in 1915 and the current description of gravitation in modern physics. General relativity generalizes special relativity and refines Newton's law of universal gravitation, providing a unified description of gravity as a geometric property of space and time, or spacetime. In particular, the curvature of spacetime is directly related to the energy and momentum of whatever matter and radiation are present. The relation is specified by the Einstein field equations, a system of partial differential equations.

UNNUMBERED SECTION

Some predictions of general relativity differ significantly from those of classical physics, especially concerning the passage of time, the geometry of space, the motion of bodies in free fall, and the propagation of light. Examples of such differences include gravitational time dilation, gravitational lensing, the gravitational redshift of light, and the gravitational time delay. The predictions of general relativity in relation to classical physics have been confirmed in all observations and experiments to date. Although general relativity is not the only relativistic theory of gravity, it is the simplest theory that is consistent with experimental data. However, unanswered questions remain, the most fundamental being how general relativity can be reconciled with the laws of quantum physics to produce a complete and self-consistent theory of quantum gravity.

UNNUMBERED SUB-SECTION

> **Einstein's theory** has important astrophysical implications. For example, it implies the existence of black holes regions of space in which space and time are distorted in such a way that nothing, not even light, can escape as an end state for massive stars.

There is ample evidence that the intense radiation emitted by certain kinds of astronomical objects is due to black holes. For example, microquasars and active galactic nuclei result from the presence of stellar black holes and supermassive black holes, respectively. The bending of light by gravity can lead to the phenomenon of gravitational lensing, in which multiple images of the same distant astronomical object are visible in the sky. General relativity also predicts the existence of gravitational waves, which have since been observed directly by the physics collaboration LIGO.

UNNUMBERED SUB-SUB-SECTION

Some predictions of general relativity differ significantly from those of classical physics, especially concerning the passage of time, the geometry of space, the motion of bodies in free fall, and the propagation of light. Examples of such differences include gravitational time dilation, gravitational lensing, the gravitational redshift of light, and the gravitational time delay. The predictions of general relativity in relation to classical physics have been confirmed in all observations and experiments to date. Although general relativity is not the only relativistic theory of gravity, it is the simplest theory that is consistent with experimental data. However, unanswered questions remain, the most fundamental being how general relativity can be reconciled with the laws of quantum physics to produce a complete and self-consistent theory of quantum gravity.

Einstein's theory has important astrophysical implications. For example, it implies the existence of black holes regions of space in which space and time are distorted in such a way that nothing, not even light, can escape as an end state for massive stars. There is ample evidence that the intense radiation emitted by certain kinds of astronomical objects is due to black holes. For example, microquasars and active galactic nuclei result from the presence of stellar black holes and supermassive black holes...

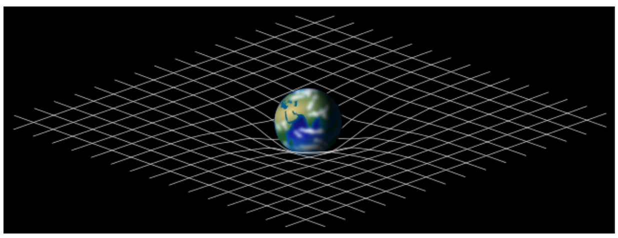

Figure 1: ***Spacetime curvature schematic***. *Lattice analogy of the deformation of spacetime caused by a planetary mass.*

UNNUMBERED SECTION

> La musica non e' solo composizione.
> Non è artigianato, non è un mestiere.
> La musica è pensiero. [1]

Some predictions of general relativity differ significantly from those of classical physics, especially concerning the passage of time, the geometry of space, the motion of bodies in free fall, and the propagation of light. Examples of such differences include gravitational time dilation, gravitational lensing, the gravitational redshift of light, and the gravitational time delay. The predictions of general relativity in relation to classical physics have been confirmed in all observations and experiments to date. Although general relativity is not the only relativistic theory of gravity, it is the simplest theory that is consistent with experimental data. However, unanswered questions remain, the most fundamental being how general relativity can be reconciled with the laws of quantum physics to produce a complete and self-consistent theory of quantum gravity.

Stages	Dur.
Omnidirectional Expositions	6 mo.
Sound-shape analysis and visualizations	
Sound-shape reproduction	
Sound-shape database design	
Micro-Rhythm of sound-shape	12 mo.
Solo repertoire analysis	
Sound-shape explosion in practising	
From literature to shapes open-data	
Rhythm of sound-shape interactions	12 mo.
Multiple sources multiple shapes	
Relationship and complexity perception	
Sound-shape in musical composition	12 mo.
AI: unleashed writing opportunities	
AI: can you listen the time?	
Final documentation	6 mo.

Table 1: *Thinking Tetrahedral Today stages*

Einstein's theory has important astrophysical implications. For example, it implies the existence of black holes regions of space in which space and time are distorted in such a way that nothing, not even light, can escape as an end state for massive stars. There is ample evidence that the intense radiation emitted by certain kinds of astronomical objects is due to black holes. For example, microquasars and active galactic nuclei result from the presence of stellar black holes and supermassive black holes, respectively. The bending of light by gravity can lead to the phenomenon of gravitational lensing, in which multiple images of the same distant astronomical object are visible in the sky. General relativity also predicts the existence of gravitational waves, which have since been observed directly by the physics collaboration LIGO. In addition, general relativity is the basis of current cosmological models of a consistently expanding universe. [2]

Figure 2: *Mind Mapping*

- Derivations of the Lorentz transformations
- Einstein–Hilbert action
- Tests of general relativity
- Two-body problem in general relativity

$$m(x, p, \theta) = (p * x) + ((1 - p) * (x \cos \theta)) \tag{1}$$

Some predictions of general relativity differ significantly from those of classical physics, especially concerning the passage of time, the geometry of space, the motion of bodies in free fall, and the propagation of light.

```
mspan(x,p,rad) = m,s
with{
  m = (p*x)+((1-p)*(x*cos(rad)));
  s = x*(sin(-rad));
};
```

Examples of such differences include gravitational time dilation, gravitational lensing, the gravitational redshift of light, and the gravitational time delay. The predictions of general relativity in relation to classical physics have been confirmed in all observations and experiments to date.

References

[1] Luigi Nono. Altre possibilità di ascolto. In Angela Ida De Benedictis and Veniero Rizzardi, editors, *Scritti e Colloqui I*. Ricordi LIM, 1985.

[2] Michael Gerzon. The principles of quadraphonic recording part two: The vertical element. *Studio Sound*, 12(9), 1970.