

predictions

Other ~~observations~~ include:

The bending of light rays passing close to the Sun; the time for signals reflected off planets passing the limb of the Sun, and returning to Earth, that light travelling out from a massive body should suffer a redshift.

The general theory is completely general. Newtonian theory is a limiting case of low speeds and low gravitational fields, and special relativity a limiting case of low gravitational fields.

However general relativity is abstract; its equations are difficult to solve, except in cases of very high symmetry and uniformity, and general relativity only needs to be used where departures from predictions made by the other two theories are severe.

Hence we use special relativity often in particle physics, and Newtonian theory everywhere in the solar system, even often on the scale of the galaxy or larger; the departures from general relativity are only after all perhaps 1 part in 10^{16} .