

Translation into English: [Chapter 2 - Catalogue of Errors for Both Theories of Relativity](#)

from the German documentation of G.O. Mueller

"On the Absolute Magnitude of the Special Theory of Relativity - A Documentary Thought Experiment on 95 Years of Criticism (1908-2003) with Proof of 3789 Critical Works" - Text Version 2.1 - June 2004
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M: The General Theory of Relativity / Error No. 8

Albert Einstein's alleged gravitation-induced red shift of the spectral lines is said (1) to be based on the GTR, and its confirmation is said (2) to confirm the GTR

Spectral lines in the light from bodies with strong gravitational fields (the sun, stars) should be displaced to form longer frequencies (red shift) as compared to the same spectral lines in the geostationary laboratory.

According to Theimer (1977, p. 143) a physical explanation "is sought in the effect of gravity on the light quantum. They must work their way out against gravitational resistance and lose energy in the process, which is expressed as a reduction in frequency, i.e. in a displacement of the spectral lines towards the red end of the spectrum."

The process is explained solely in terms of gravitational effects and energy loss and has no connection with the principle of equivalence of the GTR. For this reason a confirmation of the prediction made by Albert Einstein cannot be held as a confirmation of the GTR.

The empirical findings and their possible findings were summarized by Theimer (1977, p. 143) as follows: "Astronomically observed displacements of this sort are difficult to distinguish from the Doppler effect due to the motion of departing stars and from the effects of fluctuations in the atmospheres of the stars. The masses and radii of the large stars are not precisely known, and the calculations done on small stars are uncertain. The average value of the red shift on the surface of the sun agrees, it is true, with Einstein's prediction, but there are strong local fluctuations. At the centre of the sun the observed value is too small, at the outer edge it is too large. Only in the sun's atmosphere was a local value found that was in agreement."

In 1955 the evaluation of the results of observations were still very much disputed. According to Theimer, Finlay-Freundlich and Hoyle considered the results to be unsatisfactory or doubtful.

Theimer (1977, p. 144) also reports on the experiment of Pound and Rebka (1960) in a 22 m high steeple in which gamma radiation moves between the floor and the spire and a spectrum displacement is measured with the Mössbauer effect, this corresponding to the prediction made by Einstein. As interpretations, two possibilities are presented, one with and one without the principle of equivalence of the GTR.

The red shift is an effect due solely to the gravitational theory, and its alleged connection with the GTR is a systematic error of the theory. The interpretation as an effect of the gravitational field alone is uncertain, since the Doppler effect can also exert an influence, which is why the interpretation of the measurement data is a matter of controversy. Brown (1956, p. 631), by the way, still holds the red shift as not having been satisfactorily proven.

The early results of Charles Edward St. John are interesting. He worked with the best available equipment, and was unable to detect any red shift in keeping with Albert Einstein. Whereas he was unable to detect any red shift up to 1919 and also thereafter, other scientists were - strangely enough - also able to detect the red shift after 1919, i.e. after the media event of Eddington's "tremendous confirmation of the GTR" by the observations of the eclipse of the sun. What the media celebrates is promptly found. When a theory has been published in the media, it must no longer be doubted.

St. John, Charles Edward: The principle of generalized relativity and the displacement of Fraunhoferlines toward the red. In: Astrophysical journal. 46. 1917, pp 249-265. - St. John, Charles Edward: A search for an Einstein relativity-gravitational effect in the sun. In: National Academy of Sciences (USA). Proceedings. 3. 1917, pp 450-452. - St. John, Charles Edward: Relativity and

shifts of Fraunhofer lines [report on St. John's publication in: Astrophysical journal. 46. 1917, pp 249-265]. In: Nature. London. 100. 1918, No. 2518, p. 433. - St. John, Charles Edward: The displacement of solar lines. In: Nature. London. Vol. 106. 1921, No. 2677: Special number: Relativity; pp 789-790. - St. John, Charles Edward: Bemerkung zur Rotverschiebung. In: Physikalische Zeitschrift. 23. 1922, p. 197. - St. John, Charles Edward: Evidence for the gravitational displacement of lines in the solar spectrum predicted by Einstein's theory. In: Astrophysical journal. 67. 1928, April, pp 195-239. - Freundlich, Erwin Finlay: Über Rotverschiebungen der Spektrallinien kosmischer Lichtquellen. In: Forschungen und Fortschritte. 28. 1954, pp 353-357. - Brown, George Burniston: Have we abandoned the physical theory of nature? : substance of a lecture, Royal Institute of Philosophy, Oct. 1955. In: Science progress. 44. 1956, No. 176, pp 619-634. - Theimer 1977.