

## The Flatness of Never-Beginning Space

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The Compton scattering (i.e. relativistic Thompson scattering) can be a thermalisation process (in the second order of relativistic Doppler shift, a radiation loses its energy and gains “cold” electrons) [1]. The Compton scattering/frequency shift (which is a purely relativistic Doppler shift in the “laboratory” frame) can be repeated (multiplied) to increase  $z$  (for the thermal radiation, the Compton scattering decreases a frequency of star radiation to the “dark” matter (e.g. “ionized” such as protons) background (CMB) temperature (“symmetrically”) as an inverse process to the comptonisation, which is carried out by the inverse Compton scattering of CMB radiation to local “hot” matter (e.g. hot plasma) temperature). The photoelectric effect is stronger effect (towards visible light wavelengths) by several orders of magnitude (than the Thomson cross-section) and is further followed by “inelastic”/“relativistic” scatterings/shifts (down to “acoustic” effects) and is able to convert a radiation while keeping (approx.) spherical waves. Another effect, which “cannot be” (simply) distinguished from the cosmological (Doppler) red shift, is the distance dependent Wolf effect (frequency shift) [2]. All these “thermalisation” effects (must conserve the total energy) are equivalent in the finite speed of interaction “effect” (i.e. are based on retardation or relativity). Thus a frequency (“red”) shift does not say anything about its source and then the Universe can be flat ( $\Omega=1$  is observed [3]) and non-expanding (never-ending without “creationistic” singularity - *creatio ex nihilo*). It can be also infinite in size with the constant time flow. The effective temperature (about 3 K) of nuclear binding energy (its density corresponding to the finite density of mass) can be (spectrally) transferred to a real temperature (to the cosmic microwave background) by a thermalisation [4]. Then the Olbers' paradox is explained and the Universe can be (conserved) in a closed-cycle [5, 6] (and further it can explain e.g. an existence of low metallicity stars).

The four classical tests of general relativity theory (the perihelion shift, the light bending, the Shapiro time delay and the gravitational red shift) can be also explained in flat spacetime by the Whitehead's theory of gravitation. The non-existence of gravitational dipole radiation (as is expected from the conservation of momentum) can be achieved within the modified Whitehead's theory (with retarded and advanced potentials) [7]. And finally non-application of the “length contraction” ansatz (a space deformation wrongly applied to non-metric theory) explains zero results in (the interpretation of) a “galaxy-induced anisotropy” in the local gravitational constant and the Nordtvedt effect.

The special theory of relativity is not proved (and non-existence of the “luminiferous aether” is not disproved) by the Michelson-Morley experiment. Then the “length contraction” ansatz (derived from a finite speed of interaction) is not needed (and it can not be applied again). And its non-application in interpretation of e.g. the Kennedy-Thorndike experiment also supports possibility of the classical (relativistically “undeformed”) “flat” space (or objects).

The explanation, that light (from distant objects e.g. in the Space) is “retarded change in periodical motion of charged dipoles”, also better illustrate finiteness of the speed of light. And the electromagnetic radiation is retarded equilibrium (transition or thermalisation).

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