24 July 2011

MCS Physics

Article 5:

Relativity's Nightmare Universe

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Abstract

I describe a universe in which all universal matter is of zero rest mass and is traveling at the speed of light (this class of universe is hereinafter abbreviated ALSU). In this universe motion through space is a result of constant rate repetition of discrete swift microscopic leaps averaging to a smooth-like motion at C in the macroscopic scale. All matter in this universe is composed of *EMP*s (see Article 1), and the difference between photons whose speed of light is recognized in the macroscopic scale of reality and between particles whose speed of light is not recognized as motion in the macroscopic scale, is in the symmetry of their *EMP* based structures. While bosons have semispherical structural symmetry, fermions have spherical structural symmetry. Photons thus follow geodesic lines in their motion, while other elementary ALSU particles are exercising their microscopic light speed leaps, frenetically joggling around a local mid point, with the directional leap of each *EMP* in their construction being cancelled out by a consequent leap of another *EMP* moving in the opposite direction. In such a universe particles and photons are on an equal footing, they are constructed from the same building blocks, have the same speeds, the same ticking rate of time, the same zero rest mass and the same light speed mass per each *EMP* participating in their construction. The physicists residing in this ALSU unfortunately live in the macroscopic world, and are thus unaware of said equal footing. Since they are able to recognize only the macroscopic averages of the microscopic light speed leaps of particles, they mess up everything: they relate to fermionic particles as if they are at rest, to their light speed masses as if they were rest masses, and to small differential values in the particles' light speeds as absolute small speeds. Consequently they invent relativity theories, and finally become confused of the inconsistency of such theories with the quantum realm. I guess you will not be surprised to find out that according to MCS Physics this hypothetical universe is the one in which we happen to reside.

A whole universe in the speed of light

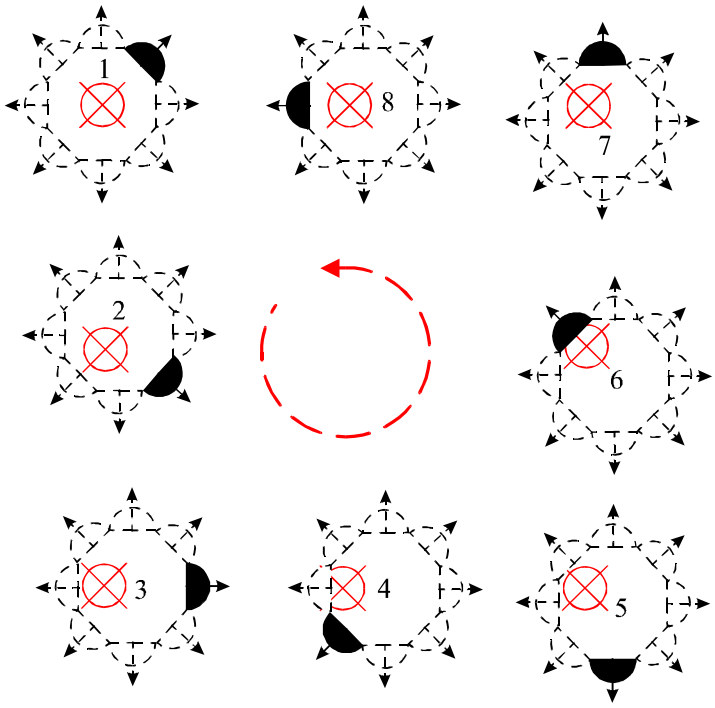
In Article 1 of MCS Physics I have postulated that there is Elementary Mass Particle, *EMP*, from a plurality of which all greater masses are composed. In Article 4, I have postulated that an *EMP* moves always in the speed of light[I], has zero rest mass, and is the minimal photon in existence. In such a universe the speed of light observable in the macroscopic scale of reality is the average of constant rate swift microscopic leaps exercised one at an instant by a respective *EMP*, each leap being followed by a predetermined idle period. These rules of nature result with an "All Light Speed

[I] Which, as I explained in Article 4, is actually equal $C\sqrt{2}$ per a leap, before multiples of which are being averaged up to reveal the macroscopic scale manifestations of that speed.

Universe" (ALSU), a universe in which all universal matter is of zero rest mass and is traveling at the speed of light.

The difference between bosons whose speed of light is recognized in the macroscopic scale of reality and between particles whose speed of light is unrecognized in the macroscopic scale, is in the symmetry of their *EMP* based structures. While the building blocks of photons (and all bosonic particles) are arranged in a semispherical structural symmetry, the same building blocks in fermionic particles are arranged in a spherical structural symmetry. Photons, as well as any of their family members having semispherical symmetry, have their *EMP*s averagely pointing towards a predetermined direction, and therefore follow a respective geodesic line, while exhibiting light speed motion in the macroscopic scale of reality. The remaining elementary particles, having spherical symmetry, are exercising their microscopic light speed leaps, frenetically joggling each around a respective mid point, with the directional leap of each *EMP* in their construction being cancelled out by a consequent leap of another *EMP* moving in the opposite direction, thus exhibiting no motion[II] in the macroscopic world. The microscopic realm of spherical symmetry particles is exemplified in the following figure:

Fig. 5.1



A hypothetical particle having spherical symmetry is resembled by a 2D construction of eight *EMP*s each pointing towards a different direction. The central point of the composed particle is resembled by a red colored circle crossed by an X. The cycles of all the *EMP*s in the ALSU are of the same duration, however they are phase shifted (see Fig. 4.1 of Article 4). Therefore, each *EMP* in the construction is performing its microscopic light speed leap at a separate instant, followed by a break. The *EMP* that becomes active at a given instant is marked in black, and the consequence of its light speed leap is demonstrated in a next one of the eight instances depicted counter-clockwise in this Fig. It can be appreciated that upon completion of a cycle the particle returns to its initial position resembled by the upper left instance (No.1) of the Fig. Note that the Fig. is only for the purpose of emphasizing the notion that a particle that looks like standing still can actually be traveling at the speed of light. The Fig. should not be relied on for estimating the number of *EMP*s in real particles (probably tens orders of magnitude larger), the detailed structure in which they are actually arranged, or the degree of rigidity of their mutual connections (probably they are tethered loosely to a certain predetermined degree) .

[II] Throughout this Article I purposely ignore the mechanism of low speed motions. I will return to discuss it in detail in the following articles. Briefly speaking, in an ALSU, motions in speeds lower than C result from differences in the symmetry of light speed motions within the particles constituting the body in motion, and are therefore should not be considered as low speed motions. In the microscopic level of reality they are motions at the speed of light which average up to a non zero value in the macroscopic world.

During a cycle, the particle is joggling around its central point, exercising light speed leaps identical in nature to those of a photon traveling in the macroscopic world at the speed of light, yet due to its spherical symmetry structure, differently from a photon, the particle looks like stationary in the macroscopic scale of reality.

Relativity in an all light speed universe

One myth associated with the development of relativity, is about Einstein as a teenager, imagining himself riding on a beam of light and trying to predict how would it feel like to examine light from this special vantage point. The very basic assumption of relativity is that any observer in an inertial frame of reference is considered stationary respective to a beam of light. The answer of Einstein to his teenage thought experiment is that should you enchant yourself to become a photon, being yet stationary respective to yourself you will still see the beam of light traveling at the speed of light.

In the ALSU universe I've just described, you don't need, however, to enchant yourself to become a photon. The mass of your entire body, is not a rest mass, it's the mass of photons, i.e. of *EMP*s, from which your body is constructed, traveling at the speed of light. The energy content of your mass is nothing more or less than the sum of kinetic energies of the individual *EMP*s from which your mass is constructed, which is equal to $M \cdot C^2$ as I have indicated in Article 4. The reason why you see light beams always traveling at the speed of light, is not a different ticking rates of your and their clocks. All universal *EMP*s are identical regardless of the elementary particle they inhabit. The clocks of the *EMP*s constituting the photons of the light beam you examine, and the clocks of the *EMP*s constituting the mass of your body, all tick at exactly the same rate, the rate they perform their leaps, leaps which even though being manifested differently in the macroscopic world, are exactly the same in the microscopic realm.

Observer, say a 16 years old Einstein riding on a beam of light, is one that interprets, one that have memories, one that can use them for calculating and predicting. The physical world, however, is governed by interactions between particles and fields. Particles don't "look at distances", "observe", "interpret", "calculate" or "predict". They are simply responding to their immediate outside world, the one that is next to them. They can't and don't know what beyond the "next". Only the immediate exists. In the ALSU physical reality, a real observer is thus a single fundamental particle at a time, namely a single *EMP* at time. As you surely can appreciate, averaging up the frenetic momentary motions of zillions of particles and presenting them as a single "stationary" observer, cannot serve a basis for a true description of reality, in the universe I have just described.

In an ALSU, therefore, relativity is no more than a good description of a hypothetical universe in which the speed of light is a patent exclusively licensed to photons (and to their close family members), and which other particles do not dare to infringe.

Whether or not a parallel universe embodying such privilege for photons exists, is none of my business. Simple as that, MCS Physics is a physics of an "All Light Speed Universe" (ALSU), namely a relativity's nightmare universe, a simpler universe in which all matter is on an equal footing, and which its observable manifestation extraordinarily fits with the universe we use to inhabit, as will become apparent from

my work and hopefully from the work of those who will be so kind to follow and to elaborate mine.

Article sum up

A universe is described, in which:

The speed of light C is a manifestation in the macroscopic scale of reality, of discrete uniform leaps performed in a constant rate in the microscopic realm by a fundamental particle which is the building block of all universal matter.

Photons (and their bosonic family members) are semispherical structures of the fundamental building block, therefore the microscopic leaps of their constituents average up to a recognized motion at C in the macroscopic world.

Other elementary particles (fermionic matter) are spherical structures of the same fundamental building block, therefore the microscopic leaps of their constituents average up to zero, and they look stationary in the macroscopic world.

In the microscopic realm both bosons and fermions exercise the same light speed leaps and are thus on an equal footing, experiencing the same rate of clock ticks, having the same zero rest mass and the same light speed mass per each of their building blocks.

Relating to zillions of particles as “an observer at rest” is an untrue concept used by relativity theories for examining the physical reality. There is no “observer at rest” in an ALSU, thus relativity is an ill description of the physics of such universe.

Glossary

ALSU All Light Speed Universe. Our universe, according to MCS Physics.