

Anti-matter

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Abstract:

“Anti-matter” is one of the contradictions in Basic Physics. In this paper, the mathematical and theoretical contradictions for anti-matter are explored. The conclusion is that there is no mathematical rationale for anti-matter. For particles in the applied energy field of a particle collider, movement will be dependent on the Rotational Energy Field or “spin” of the particle, not on the fictional “charge”. The conclusion is that the behavior of different particles is not dependent on fictional “anti-matter”.

1. Introduction:

In earlier papers, the fundamental principles of Physics have been reviewed in the analysis of results of basic experiments.

Atomic spectra have been analyzed to explore the structure of atoms and molecules [1] [2]. Movements and interactions have been analyzed, to explore the behavior of energy fields (presently called magnetic and electro-magnetic fields) [3][4][5].

The more the basic principles of physics are examined, the more it appears the foundations of modern physics are incorrect. The foundations are built on the "conjectures and guesses" of physicists from over 80 years ago. Magical entities such as "charge" and "electron orbits" were invented to fill the gaps in their knowledge.

Unfortunately, many physicists have been indoctrinated with these early conjectures, and it is difficult to convince them to review their fundamental beliefs.

In this paper, the foundations of physics and the nature of “matter” are reviewed, from first principles.

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2. Matter and Anti-matter:

There is a contradiction with the use of the term "anti-matter".

To a mathematician, if an (object) and an (anti-object) combine, the product is ZERO.

$$1 + (-1) = \text{ZERO}$$

To a physicist, if an (object) and an (anti-object) combine, the product is ENERGY.

$$1 + (-1) = \text{TWO}$$

From the work of the eminent mathematician Paul Dirac, his famous equation led to the proposal for the "anti-electron" or "positron".

However, most people today would first question the correctness of this "elegant" mathematical equation rather than accept the invention of a new particle.

Others are swayed by science fiction: For instance, in the Star-Trek series, the main engines produce huge amounts of energy from the combination of matter with anti-matter, propelling the Starship Enterprise to warp speeds.

Whatever the history, many successive physicists have been indoctrinated to believe in "anti-matter". Unfortunately, they rarely question its mathematical validity.

3. The movement of particles in an applied Potential Energy Field:

Figure 1 shows the typical paths of particles after a collision in a Particle Collider.

From previous papers on Energy Fields [3][4][5], the movement of particles in an applied Potential Energy Field is seen to be dependent on the Rotational Energy Field or "spin" of the particle, not on the fictional "charge" of the particle.

Conventional theory is that some particles have equal and opposite "charge", and that particles have opposite "charge" to anti-particles. This theory is questioned in the "no-charge" conjecture [6].

Even using Artificial Intelligence, it has not been possible to identify straightforward patterns in Collider data. Perhaps the billions of results from Collider experiments should be re-examined from the alternative viewpoint of particle "spin"?

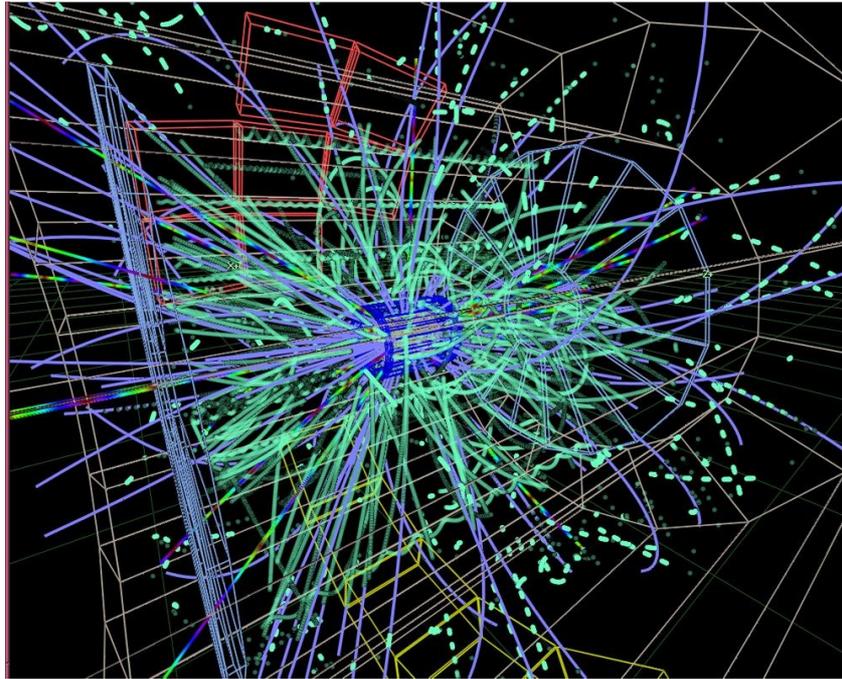
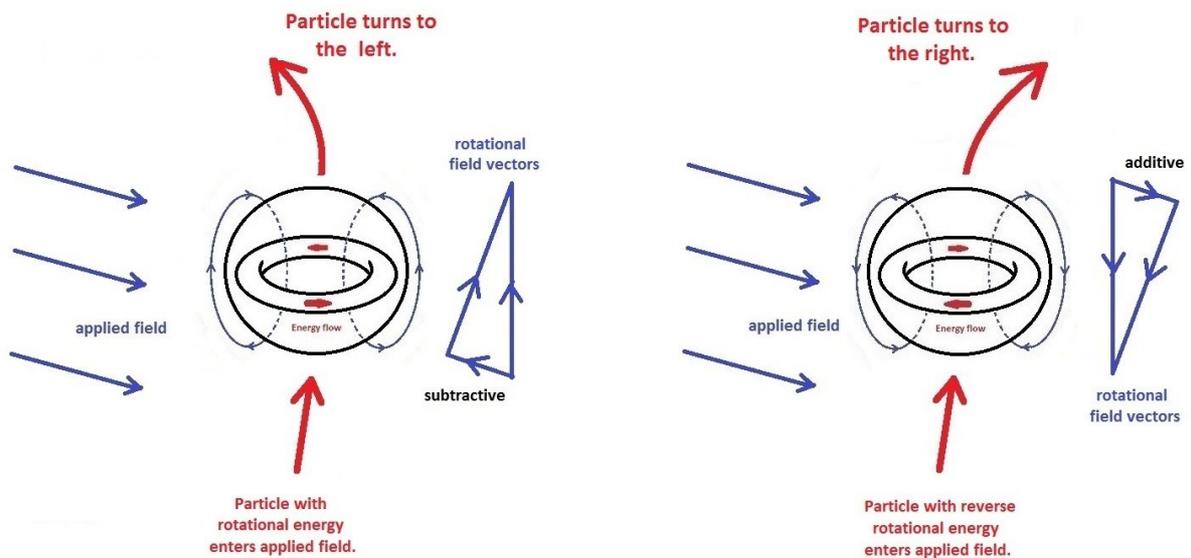


Figure 1: Particle paths after collision in a collider.

In the Energy Field conjecture, the movement of particles in a Collider collision is a function of the Rotational Energy Field or “spin” of the particle – see Figure 2. The radius of the turn will also be dependent on the mass and initial velocity of the particle as it enters the applied Energy Field.



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Figure 2: Particles with opposite rotational energy in an applied energy field.

For particles moving through an applied energy field, the direction of turn is solely dependent on the rotational energy field vector of the particle. A particle having a rotational energy field with a subtractive vector will turn in a different direction to a particle having a rotational energy field with an additive vector.

Note: In any given environment, there is no magical reason why rotational energy field vectors for particles should be exactly aligned, or exactly counter-aligned. The conjecture is that the energy field vectors will be in random directions and, with the addition of the applied field, the net energy field vectors will be in different directions and at different strengths. Some particles will, therefore, turn more than others.

[4. The interaction of particles having Rotational Energy Fields:](#)

From “AI” Physics - Energy Fields (Part 3) [5], particles with opposite rotational energy fields will tend to move together under the influence of both the potential energy field and the combined rotational energy field.

The conjecture is that, under balanced conditions, if an electron and a “positron” collide, they will combine or interact, resulting in the emission of two 511 keV photons - see Figure 3:

The reverse conversion has also been observed - from energy to matter - when two photons combine to form two particles.

The conjecture is that electrons and positrons created in a particle collider are essentially the same particle, except that they have opposite rotational energy field vectors. Hence rotational energy is conserved when a balanced electron-positron pair is created or destroyed.

Similarly, the conjecture is that protons and anti-protons are not matter and anti-matter, since the product of their “mutual annihilation” is not zero. The conjecture is that protons and anti-protons are essentially the same particle, except they have opposite rotational energy fields.

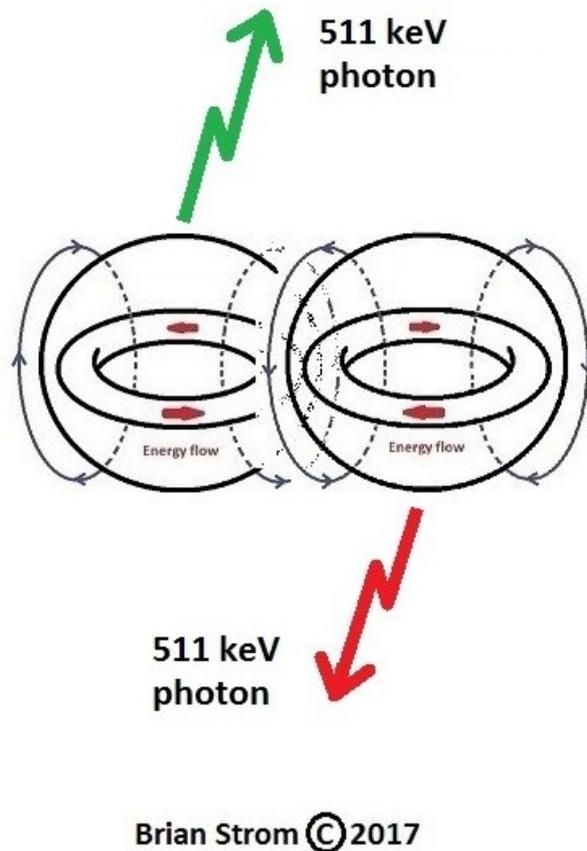


Figure 3: Electron and positron interaction - conversion to photons.

5. Summary and Conclusions:

This paper questions the mathematical correctness of matter and anti-matter and concludes there is no mathematical rationale for anti-matter.

The paper identifies the importance of a Rotational Energy Field or “spin” in determining how a particle moves in an applied Energy Field. The resultant movement of the particle is dependent on the vector of its Rotational Energy Field. The movement is not dependent on the particle having a fictional “charge” or a fictional “anti-charge”.

Hence there is no need for the fictional creation of “anti-matter”.

Just as there is no need for the fictional creation of “charge”.

Logically there are “particles with spin” and “particles with reverse-spin”.

Perhaps the future analysis of the particle tracks in Collider experiments may reveal patterns and hence the underlying fundamental physics. The use of Artificial Intelligence techniques may hasten this analysis.

5. References:

[1] AI Physics - Atomic Structure (Part 1) Brian STROM. viXra: 1811.0162. November 2018. <https://vixra.org/abs/1811.0162>

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[4] AI Physics - Energy Fields (Part 2) Brian STROM. viXra: 1903.0495. March 2019. This paper includes a summary of the interactions between Potential energy fields, Orbital energy fields and Rotational energy fields.

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[6] Electrons have Potential Energy not “charge”. Brian STROM. viXra: 2301.0008. January 2023. This paper questions the old conjectures from over 80 years ago.

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