



How did this Theory evolve

Studying Electronics and Electrodynamics in the seventies of the 20th century brought some interesting insights into the dynamics of electrical forces. One astonishing effect was the force on an electric dipole in an alternating combination of magnetic and electric field. The force was always directed into the same direction. Positive and negative charges will be accelerated into opposite directions. This effect is based on elementary physics.

(In the following such a field combination is referred to as a "polarizing field".)

This was forgotten for a long time. After 9/11 with the Anthrax attacks there was the intention to destroy Anthrax with a strong electric alternating field. The experiments failed and were stopped, due to technological problems.

Remembering then back to the field combination of the alternating field combination the new theory began to grow. Theoretically electrons could be accelerated into a single direction by an alternating field combination of a magnetic and an electric field. The fields have to be perpendicular and must have a phase shift of 90 degrees. But where in the world are such field combinations existing in nature?

The search for described effects that might be caused by such field combinations began. First strange effects on earth were looked at and some candidates were found. But due to the possibility that biological functions are involved and with that influences on living cells might be possible.... this path was discarded.

Now a new look was done into outer space, the Universe. A first look was at the solar wind containing electrons and protons, but no further insight was found, except that the gravity of the moon has no major influence. One other candidate seemed to be highly interesting that were the Pulsars, the Neutron Stars with their Lighthouse beams.

They emit electromagnetic waves on a very regular basis having a continuous frequency spectrum range. Their signals have been analyzed in astrophysics extensively in the past 40 Years, and still there are some basic unresolved questions.

The new question was now in which way is the polarizing field created. And that is quite simple. Just assuming two oppositely charged areas on the surface of a neutron star would give such a polarizing field combination that is revolving. When there are electrons in the atmosphere of a pulsar with the right velocity (including the correct direction) at the right point, then these electrons will be accelerated to high speeds.

Numerical calculations showed that the acceleration was not possible considering the mass increase according to special relativity (SR).

Assuming a maximum speed of electrons greater than c without SR seemed to deliver results that coincide with the measurements from astrophysics.

But how is it possible to accelerate electrons to speeds higher than c ?

The electric and magnetic quasistatic fields propagate themselves with c ? In Astrophysics it is assumed that the field lines of a quasistatic rotating magnetic field are bent like a corkscrew.

Is there something wrong in our present understanding in propagation of electric and magnetic fields?

One thing is clear electromagnetic waves that carry energy are propagating with c .

Now a first question was, do the static fields themselves contain energy?

Our present understanding teaches that. But if you look simply into the electric field energy of a single electron the consequence would be that energy is continuously transferred into the surrounding space as the electric field expands with c . This is in contradiction with the conservation of energy. Or has anyone ever detected that the electrons in our world are not stable, that they lose energy and with that mass over time? No!

The only conclusion can be, the electric and magnetic quasistatic fields do not contain energy themselves.

With that the fields and with them the forces can react immediately, without any time delay. With that Newton's 3rd law about force and reaction to the force is valid without any limitation. In today's physics the forces from electric and magnetic fields act retarded. With this new insight Newton's 3rd law becomes again universally valid, without any retardation. Besides, how should this work with retardation? Are the forces playing ping pong? No!

If one looks at Heinrich Hertz' paper about the evaluation of the propagation of electric forces ("Untersuchungen Über Die Ausbreitung Der Elektrischen Kraft") dated 1894 one finds in his first standpoint this immediate action of forces considered. A force is only there if a body is there. Otherwise the force has no influence. Due to some other conclusions (no strong arguments, no measurements, in the author's opinion it was more the wish to come to a unified explanation for static and dynamic field description) the fourth standpoint was selected, where the space in between acts as transfer medium of the forces, though there might be no medium, just empty space. This was generally accepted in the world of physics and led finally to the Theory of Relativity (SRT and GR).

So the final conclusion for this new theory is simply: the electric and magnetic static and quasistatic fields have no propagation speed, their influence is simply immediate. (If there is nothing in between.)

That has enormous consequences to physics and electrodynamics.

There is no more any retardation of such fields in free space. They can accelerate particles to any speed also greater than c . The corkscrew shape of rotating magnetic fields are no longer corkscrew like, they have straight lines not ending at the so called light cone. There are no broken field lines. Only the energy carrying electromagnetic waves are travelling with c and the light cone has a meaning for them. They cannot appear outside the light cone as they do not propagate with a speed larger than c , they propagate exactly with c .

An immediate consequence is then, that light is created at some point and it is emitted with c relative to the speed of its emitter. Why must that be? Quite simple there is no preferred velocity. If the emitter flies with a velocity what velocity?

There is no absolute velocity. If there is nothing else, than the emitter itself is at rest. And from this point on the generated electromagnetic wave is travelling with c . The emitter does not know anything about a distant observer that might be light years away, nor can he be influenced by any distant observer. If the emitter has a speed of v_1 towards a receiver this receiver will see these signals blue shifted as the total velocity the light arrives at the receiver is $c+v_1$. But why did we never recognize that the light was travelling faster than with c ? That's also very simple, the atmosphere of the earth contains lots of free electrons. And whenever a wave passes an electron a portion of the energy is transferred to the electron, and the electron due to its forced movement reemits the wave now already with shifted frequency. Then a signal arrives at the receiver with c (assuming the last electrons are in the same surrounding as the receiver and their relative speed is about zero).

So the dealing with energy content of magnetic or electric fields is not obsolete, it is and will be a helpful model to calculate a lot of technological phenomena. It only has to be considered that it is a model with limits. And as with all models that have limits they only deliver correct results within these limits.

Summarizing one can say, this new theory is only based on few simple postulates, even less than with the Theory of Relativity and it avoids different going clocks in the universe. The time is everywhere identical throughout the universe. Also the laws of physics are the same and identical throughout the universe, completely independent of different inertial systems.

In the following chapters you can read some more detail, more consequences, and also attempts to explain things, that before were regarded to support GR and SRT that also can be explained with this new theory. It seems to be possible for certain phenomena to transfer results from one theory to the other and vice versa. This is possible due to the rule that an electron will gain a certain amount of energy when running through an accelerator with a given voltage. Here both theories Relativity and this new theory are identical. Not in time, not in mass (increase), not in length (contraction), and not in speed, but in terms of energy.

Overall this paper can only be a starting point for the new theory.

Is it not worth while to spend some money into the further evaluation of this new theory?

It has no need for dark energy, no need for dark mass, and no need for gravitational waves.

And how much money is being spend and planned to be spend to evaluate the latter things?

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