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The Anti-Tachyophoton

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In article **7-The Tachyophoton** a new wave existing in the universe was postulated. The characteristics of the T-wave were explained as follows:

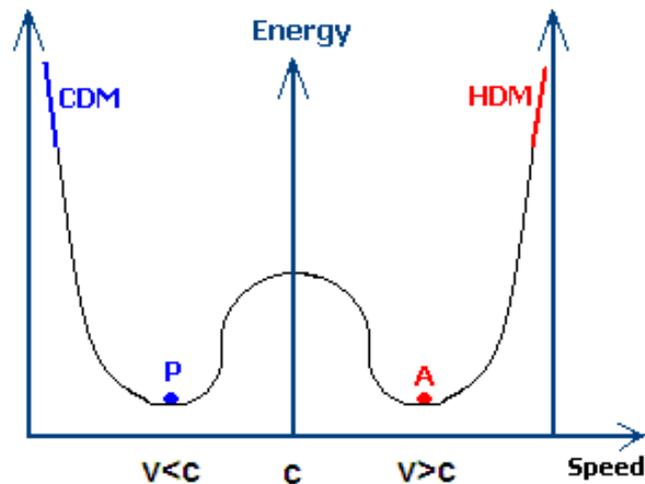
All kind of natural formations and self organizations is the result of many T-waves acting as a group on material particles. Thus the gravitational force becomes an **attractive force** because the T-waves act as organizers on disorganized systems or disorganized groups of particles.

It was also stated that these waves reduce Entropy and mediate all kind of attractive forces. In the present article I would like to ponder about the Anti-Tachyophoton, or the **Anti-T-Wave**. As any antiparticle is supposed to do, the Anti-T-Wave does exactly the opposite of what the T-Wave does. It increases Entropy and creates disorder. It also has the capacity to function in both universes.

Another name for the Anti-T-waves are massive particles that have been recently postulated as **WIMP** or the **Weakly Interacting Massive Particles**. The hypothetical WIMP does not interact with electromagnetism. Thus it has no effect on electrons and other charged particles. It also does not interact with the strong nuclear force, which means that it has no effect on the atomic nucleus. Its interaction with matter is similar to the graviton and creates a gravitational repulsive force on large stellar structures.

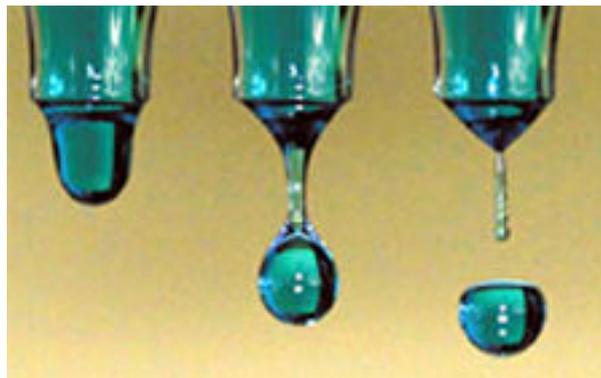
The WIMP was postulated in order to explain the fast expansion of the universe. Because the WIMP does not interact with ordinary matter it cannot be observed and because of its mass, it clumps to other WIMP and forms the **Cold Dark Matter** recently proposed by physicists and cosmologists. Simulations of a universe full of cold dark matter produce galaxy distributions that are roughly similar to that which is observed.

The present model has already a candidate for the WIMP. This candidate is the Anti-T-Wave. These waves increase the Entropy and are responsible for the expansion observed of the universe. They have the additional property of forming the cold dark matter as well as the hot dark matter, as seen on the graph below.



Cold Dark Matter (CDM) forms at very slow speeds of matter and Hot Dark Matter (HDM) forms at very high speeds. They are the antimatter of each other. The majority of observed particles and systems are found around the lowest fictive energy state where P and its antiparticle A reside.

According to the present model there are only two basic forces in the universe: The attractive force mediated by the T-waves and the repulsive force mediated by the anti-T-waves. In order to visualize these forces let us consider the picture below.



On the left we see a liquid drop starting to form. At the center, the drop has taken a spherical shape, but under the influence of the gravitational force starts to disconnect from the source. Finally on the right we see the drop detaching itself from the source and becoming independent. The force holding together the molecules of the drop is called the Cohesion force. The same happens for particles forming in the universe. First at very high energy there is nothing but the vibrating lattice field. At a critical point the lattice field splits into two universes. The constant speed of light, acts like an invisible barrier separating

these two universes. As a result of Quantum fluctuations CDM waves and HDM waves start to form. Cold and hot matter particles/waves are linked by the T-waves and also by Anti-T-waves. The repulsive force of the anti-T-waves is similar to the gravitational pull forming a drop. The T-waves are self-referential and recursive. The anti-T-waves are responsible for the expansion of the universe, while the T-waves are responsible for the formation of clusters of large stellar such as galaxies and nebulae.

The CDM particles (waves) are unstable, and have to decay into lower energy (mass) particles. The link between the lattice field and the particle is a bond consisting of both T as well as anti-T waves. Even if the particle appears to be independent, as seen on the right picture above, the link never breaks and can extend ad infinitum (see previous article **19-Law of Included Middle**).

The adhesion force of water can be observed when two layers of glass are held together by a layer of water in between. When one layer of glass is lifted the other layer sticks to it and is lifted too. An experiment testing this effect has been performed. Different pieces of glass having equal thickness but differing area have been smeared with water and clamped under a large horizontal glass. The relationship between the gravitational force and the area of different glasses is not linear but is non-linear. The form of the force attaching the two layers of glass has been found to satisfy an equation of the form $W = pA + qA^2$ where W is the force between the glass plates -or the adhesion force- and p , q are constant parameters. Such a non-linear effect is perfectly in accordance with the present model (see article **11-Order and Disorder**).