THEORETICAL PROPOSAL OF SOME FUNDAMENTAL PRINCIPLES IN DARK MATTER ACCORDING TO $E = mc^2$

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Abstract: Dark matter is thought to make up about perhaps as much as ninety percent of the universe. However, it is undetectable by its absorption emission of electromagnetic radiation. Its nature is not well understood. Although there are developing complicated and complex theories regarding dark matter, to understand in simpler terms is ever harder to explain. However, what has not been thought of in simplistic terms is how this may be able to relate to Einstein's Theory of Relativity, which is the mathematical equation $E = mc^2$. This paper proposes and discusses in simpler theoretical terms in some aspects how $E = mc^2$ may relate in simple terms that what dark matter may be is a variety of sub-atomic particles consistent with $E = mc^2$.

Key words: Dark Matter, Black Matter, Dark Energy.

1 The Complex Explanation of Dark Matter

[George Musser [4] describes dark matter as non-baryonic matter, in which he also describes that scientists believe makes up maybe as much as ninety-percent of the universe. Other Scientsts [3] also describes Einstein's famous equation of $E = mc^2$, and that matter and energy are interchangeable, merely different forms of the same thing. However, as is currently known all the black matter known to date, from the lithosphere and biosphere to the cosmos, generally has the same chemical and physical properties. These include electron paramagnetic resonance (EPR); electrical properties; changes in surface

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properties under the effects of an electric field; the X-Ray diffraction spectrum [4]; sensitivity to radiation inducing photo-ionization and photolysis [3]; explosion and fragmentation under the effects of fast atom bombardment [1] [2] [7]. The physical properties of black particles, and some of the chemical ones too, do not depend on the structure and nature of the melanogen. An extensive polyconjugated radical-polaronic system can be found in all pigments, known as Little's spine. The atoms are arranged in hexagons or pentagons, which are assembled in sandwiches in layers.

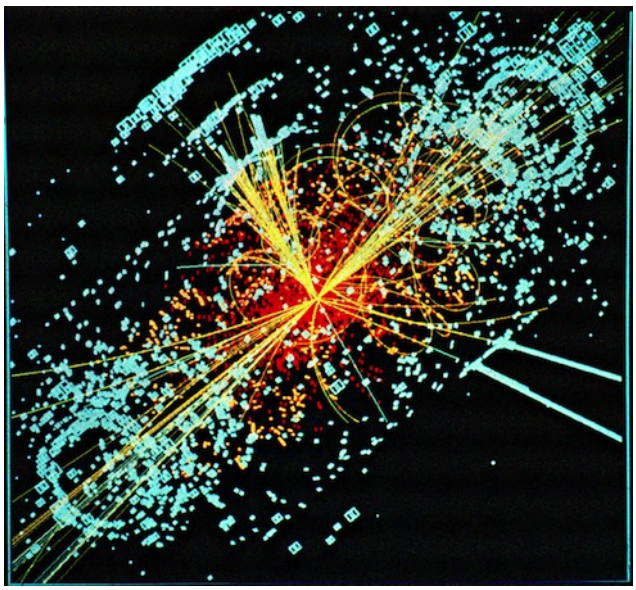

Figure 1: **CMS: Simulated Higgs to two jets and two electrons. (Source: Lucas Taylor, CERN, 1997)**

In Figure 1 is an example of the complex explanation and description of what may be Dark Matter. An example of simulated data modeled for the CMS particle detector on the Large Hadron Collider (LHC) at CERN. Here, following a collision of two protons, a Higgs boson is produced which decays into two jets of hadrons and two electrons. The lines represent the possible paths of particles produced by the proton-proton collision in the detector while the energy these particles deposit is shown in: "Sky-blue". This sky-blue color is also considered a possible interchangeable reaction of dark energy. Radio astronomy has shown there are organic molecules in the black dust clouds in the Milky Way. Some of these molecules are very simple, like acetonitrile, or acetylene systems like the polyines. Acetylene molecules are like HC_5N, HC_7N, and HC_9N have been detected by spectroscopic analysis.

It is also known that Giant red stars also emit enormous amounts of carbon dust into the surrounding space, suggesting there may be some links between the acetylene structures and soot formation. If this is so, this would imply that interstellar space may look black not just because of the lack of light, or because strong gravitational fields prevent light escaping as would be the fact in black holes. However, this may be because dark matter is otherwise state, or also in a re-cycling continual state of transformation under the action of energy/ radiation. References [3], [1] [7] discuss the Universe appears to be accelerating.

2 A More Simplistic Understanding of Dark Matter Pertaining To $E = mc^2$

A more simplistic view in how dark energy may be viewed, explained, and described is by use of a simple illustration. When a freight train is not moving it has a certain amount of great weight or mass. However, when that train moves faster and faster to a point and accelerates the mass of the freight train increases. So, this may be the case with the universe in a state of acceleration and not de-acceleration.

2.1 Brief Discussion and Conclusion

Therefore, in brief discussion and conclusion the hypothesis that leads to a theoretical proposal concerning dark matter is subjected in question form to help us to think about the simplistics of dark matter involving $E = mc^2$. Has anyone considered applying Einstein's equation of matter and energy equivalency to the missing galactic mass problem? If $E = mc^2$, then wouldn't a galaxy's rotational velocity, in addition to its radial velocity components, have increased mass due to their kinetic energy due to motion? And could this increased mass manifest itself as the missing mass that astronomer's have tried to account for? As a galaxy's rotational and radial velocity increase, the amount of mass contained in that galaxy would also increase, especially as a galaxy's recessional velocity approaches $z = 1$. This is also consistent [3] in the fact that perhaps dark energy results from strange behavior on scales smaller than atoms. The physics of the very small, called quantum mechanics, allows energy and matter to appear out of nothingness, although only for the tiniest instant. The constant brief appearance and disappearance of matter could be giving energy to otherwise empty space. However, [5] is now available that potentially has the capability of viewing and imaging down to

or near the Ångström level, where it can be used to determine what the correlation and relationship of dark matter is between the micro-macro-universes, which may only be studied using specific technologies, as IMMI [6] and AM [5].

2.2 Acknowledgements

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