title - **CLARIFYING PREVIOUS POINTS REGARDING DARK MATTER**

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abstract -

After reading "Study challenges black hole theory" in Astronomy magazine's September 2014 issue, I sat down in front of my computer and spent the whole afternoon typing this reply. Most of the thoughts were initially addressed in previous contributions to viXra.org and, as the heading states, this article is "Clarifying Previous Points Regarding Dark Matter" (with cameos by imaginary numbers, time travel into the past, instant space-time travel, unifying fundamental forces with each other as well as matter/mass, string theory, black holes, and the cosmic DVD)

content -

Imaginary numbers give negative results when multiplied by themselves e.g. i multiplied by itself gives -1. Imaginary time can be equated with dark matter in this way - it's already known that calculating time using imaginary numbers makes distinctions between time and space disappear. A negative 5th-dimension (translated 180 degrees from positive space-time) is described by imaginary numbers so imaginary numbers eliminate distinctions between space-time and the 5th dimension, permitting dark matter to exist as "ordinary" matter's scaffold.

Our initial reaction is that this is wrong because it implies that the toal amount of dark matter is equal to the total amount of ordinary, visible matter. As stated by Kim Griest from the University of California in San Diego -

"We know the total amount of material made of atoms is around one-fifth of the total amount of dark matter, the invisible mass of the universe. So nothing that is made of atoms, or that ever was made of atoms, can be a significant portion of dark matter."

But the simple fact is that the total amounts of matter and dark matter can indeed be equal i.e. dark matter can be ordinary matter's scaffold. We merely have to stop assuming that we can perceive, or that our scientific instruments can detect, ALL of the matter in any region of space-time. Time travel could account for a portion of the invisibility. This is addressed by the following -

The space-time we live in is described by ordinary [or "real"] numbers which, when multiplied by themselves, result in positive numbers e.g. 2x2=4, and -2x-2 also equals 4. Inverted "positive" space-time becomes negative hyperspace which is described by so-called imaginary numbers that give negative results when multiplied by themselves e.g. i multiplied by itself gives -1. Entering hyperspace with its negatives (energy, matter, distance, time) permits travel to the past since it would be impossible to travel 700 lightyears there, and only possible to travel minus 700 lightyears. Doing so instantly would enable a spaceship to arrive at a spot in the past which a light beam could only reach by

traversing negative distance for 7 centuries.

Applying this practically, a 2009 electrical-engineering experiment at America's Yale University, together with the ideas of Albert Einstein, tells us how we could travel to other stars and galaxies in next to no time (takeoff and landing require time). Electrical engineer Hong Tang and his team at Yale demonstrated that, on silicon-chip and transistor scales, light can attract and repel itself like electric charges or magnets. This is the "optical force". For 30 years until his death in 1955, Einstein worked on his Unified Field Theory with the aim of uniting electromagnetism (light is one form of this) and gravitation. Achievement of this – see "Digital String Theory" and "Why is Gravity Weak?" for a proposed method - means the microscopic components (gravitons) of warps of space (gravity, according to General Relativity) between spaceships and stars could mimic the Optical Effect and be attracted together, thereby eliminating distance (this is similar to traversing a wormhole between two folds in space). Now we just need some clever engineers to design a spacecraft that works according to the Einstein-Yale principle.

WHY IS GRAVITY WEAK?

When Einstein penned $E=mc^2$, he used c (c^2) to convert between energy units and mass units. The conversion number is 90,000,000,000 (light's velocity of 300,000 km/s x 300,000 km/s) which approx. equals 10^{11}. After gravity forms matter*, successive gravity waves are, via gravitational lensing, concentrated 10^{24} times (to 10^{25}, weak nuclear force's strength, giving the illusion that a weak nuclear force exists without being a product of gravitation). Then they're further magnified by the matter's density to achieve electromagnetism's strength (10^{36} times gravity's strength) i.e. 10^{25} is multiplied by Einstein's conversion factor [10^{11}] and gives 10^{36} (this gives the illusion of electric and magnetic fields that are not a product of gravitation existing). Successive gravity waves are absorbed by the matter and radiated as longer-wavelength waves (both as electromagnetic waves - possibly gamma rays, or a microwave background – and as gravitational waves which have lost 10^{24} of their energy or strength (and are labelled "10^1".)

* The 2012 article "How Einstein Discovered Dark Energy" by Alex Harvey (http://arxiv.org/pdf/1211.6338v1.pdf) states, "Recall that in 1918 the only elementary particles known were the electron and the proton. Physicists were attempting to understand why these were stable despite their internal electromagnetic repulsion. Most attempts were based solely on electromagnetic theory. For a review of these efforts see W. Pauli, Theory of Relativity, Pergamon Press, London (1958). See Part V, p.184 ff]. Einstein's effort was to construct a model in which stability was achieved through the use of gravitational forces. In particular, he used modified gravitational field equations which included the cosmological constant [A. Einstein, "Speilen Gravitationfelder in Aufbau der Elementarteilchen eine Wesentliche Rolle" (Do gravitational fields play an essential role in the structure of elementary particles), Sitzungsberichte der Preussischen Akademie der Wissenschaften, (Math. Phys.), 349-356 (1919)

Berlin]. The attempt was not successful and this was the last time he mentioned the cosmological constant other than to denounce it."

(Though Einstein's effort to construct a model in which stability was achieved through the use of gravitational forces was not regarded as successful, success may be achieved nearly a century later when his model is adapted to the Westerlund 1 magnetar.)

(see "Are the Extreme Fields of Magnetars Due to Gravitational Waves and Photon Decoupling?" - http://vixra.org/abs/1408.0187)

Digital String Theory and Black Holes

Let's borrow a few ideas from string theory's ideas of everything being ultimately composed of tiny, one-dimensional strings that vibrate as clockwise, standing, and counterclockwise currents in a four-dimensional looped superstring .We can visualize tiny, one dimensional binary digits of 1 and 0 (base 2 mathematics) forming currents in a two-dimensional program called a Mobius loop – or in 2 Mobius loops, clockwise currents in one loop combining with counterclockwise currents in the other to form a standing current. Combination of the 2 loops' currents requires connection of the two as a four-dimensional Klein bottle. This connection can be made with the infinitely-long irrational and transcendental numbers. Such an infinite connection translates - via bosons being ultimately composed of the binary digits of 1 and 0 depicting pi, e, $\sqrt{2}$ etc.; and fermions being given mass by bosons interacting in matter particles' "wave packets" – into an infinite number of (possibly Figure-8) Klein bottles which are, in fact, "subuniverses" (binary digits fill in gaps and adjust edges of our 13.8-billion-year-old subuniverse to fit surrounding subuniverses [similar to manipulation of images by computers]). Slight "imperfections" in the way the Mobius loops fit together determine the precise nature of the binary-digit currents (the producers of space-time, gravitational waves, electromagnetic waves, the nuclear strong force and the nuclear weak force) and thus of exact mass, charge, quantum spin. They would also produce black holes* - whose binary digits could, in the case of the sun, come from our star being compressed to 2.95 kms, in which case the pressure increase "shreds" the sun into its binary digits (its mass is relativistically converted into the energy of binary digits). Referring to a BEC (Bose-Einstein condensate), the slightest change in the binary-digit flow (Mobius loop orientation) would alter the way gravitation and electromagnetism interact, and the BEC could become a gas (experiments confirm that it does).

* Black holes may be thought of as meeting-places and "sinks" for the gravitational currents flowing in and between galaxies. Though they aren't composed of matter, they do have mass because they are "gravity sinks" and gravity is capable of producing matter and mass. In black holes, the mass falling into them is relativistically converted into the energy of binary digits i.e. the bosons stop interacting in wave packets to produce the forces we identify as mass, and the bosons – which are ultimately composed of the binary digits depicting pi, e, $\sqrt{2}$ etc. (see "Digital String Theory") – register as 1's and 0's. They

possess charge because the universe's mathematical foundation unites gravity/spacetime with electricity/magnetism (see the paragraph about Digital String Theory). Since it has mass, a black hole can naturally possess the 3rd property of holes viz. spin. Far from the hole possessing infinite curvature/warping or becoming infinitely dense and infinitely massive, there is no singularity but the matter is "shred" into binary digits by the black hole's fantastic pressure.

We have seen how time travel could account for a portion of the invisibility. The rest of the invisibility could be due to other portions of each region of a subuniverse existing in the normal way, yet remaining undetectable to our limited perceptions as well as being undetectable by scientific instruments. An appreciation of this circumstance can be gained by the following analogy -

The past can never be changed from what occurred, and the future can never be altered from what it will be. Both are programmed by the 1's and 0's. These 1's and 0's correspond to the 1's and 0's of the pits and land (or pits and bumps) of a DVD or CD. Science's Law of Conservation has known since the 19th century that neither matter nor energy can ever be destroyed or created - they only change form. If nothing in any time can be destroyed (it only changes form at a different point on the DVD), all time might be like a DVD. All of the "cosmic" DVD always exists even though a very limited set of sights and sounds can be perceived at any point during its playing. In different parts of the cosmic DVD; people are forever being born, forever taking their first step (are they in perpetual motion in an eternal present?), forever resting in peace. I believe English physicist Barbour has the same understanding of time which this sentence speaks of (30). And I think medical science will someday advance so much (and in such unexpected ways) that we'll be able to say they're forever being resurrected. How could the time travel loved by theoretical physicists come to pass without this "cosmic DVD"?