

Simplest Explanation of Dark Matter and Dark Energy

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Abstract

Are given simplest, concise answers to the astronomical open questions. The first Einstein's equations did not described all of the observations. Thus, already Einstein added to the space-time the non-material cosmological constant, describing so the non-material Dark Energy. As You know the historical Einstein equations $\mathbf{G} = \mathbf{T}$ explore the space, gaps (non-material things on left) with matter tensor on the right. To empirically describe early states near singularity, one is introducing the f(R) Gravity. Last is non-material Dark Matter, as proved in this paper. These non-material things I simply call "ethers".

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I. SIMPLEST DEMONSTRATION

The General Relativity (GR) one gets from Lagrangians: the matter Lagrangian and non-material Lagrangian L . The last will be studied throughout the paper. Are published modifications of GR near singularities [1] in form $L = f(R)$, where R is scalar curvature. The choice $f(R) \equiv R$ produces the historical, Einstein's General Relativity. So they have the non-material Lagrangian

$$L = R + L_s, \quad (1)$$

where $L_s = f(R) - R$. Of course, the term L_s is not Lagrangian of matter. So no one would argue on following completion of GR:

$$L = R + L_{DE} + L_{DM}, \quad (2)$$

where L_{DE} is not matter and is cosmological Λ , the L_{DM} is empirical function of coordinates t, x, y, z and also not matter. They call L_{DE} as Dark Energy and L_{DM} as Dark Matter. Indeed, last provides all characteristics of empirical "Dark Matter": as being non-material it does not absorb or reflect the light.

Thus, their $f(R)$ is a kind of deal with Dark Matter (and Dark Energy) near singularities within unmodified, historical General Relativity.

I fear, that paper will be rejected by all peer-reviewed journals, except maybe mine Ref.[2]. Therefore, the reader of a peer-reviewed journal could enjoy mine comments and developments of this theoretical discovery, when I will have reason to be much more talkative and open, like here in *viXra*:

II. THREE ETHERS OF EINSTEIN



Full Lagrangian (density) of the system

$$L = R + \Lambda + L_{\text{Dark matter}} + L_{\text{Ordinary matter}} \quad (3)$$

I denote the

$$L_{\text{Geometry}} := R + \Lambda + L_{\text{Dark matter}}, \quad L_{\text{Matter}} := L_{\text{Ordinary matter}}. \quad (4)$$

And I obtain the equations of Einstein

$$G_{\mu}^{\nu} + \Lambda \delta_{\mu}^{\nu} - 8\pi T_{\mu}^{\nu}{}_{\text{Dark Matter}} = 8\pi T_{\mu}^{\nu}{}_{\text{Matter}}, \quad (5)$$

where on the left side is the output from the Geometry Lagrangian L_{Geometry} , and on the right is output of the Lagrangian of matter L_{Matter} .

Came to mind epigraph of the Michio Kaku's book "Physics of the Impossible" like this: *if in the beginning is not absurd, it's hopeless*. And I remember from the article "Ether" (Wikipedia), the proposal of Einstein to call the spacetime as "ether". After all, the time and space are everywhere, are all-pervading! You can not shield your organism from actions of the "river of time": your hair is becoming gray. In this sense, Dark Energy (Λ term in (4)) and Dark Matter are two kinds of ether. Therefore, no reaction (except the gravity) concerning the Dark Objects was reliably observed.

It is as if the Sun was not there, and it would be only the gravity of the Sun. So, the Earth would rotate around the empty space. In this case, instead of the Sun is nothing, not even a black hole (in fact even in black hole is matter, but we have here pure geometry). If the God is fan of randomness and, thus, has created Multiverse to produce in random way the acceptable world (our Universe); then could be observed (in some cases) the gravity anomalies (Dark Matter) away from galaxies. After all, it is not fatal to humans. But we do not see it, then there is no Multiverse. Moreover, there is really nothing between the "parallel universes", thus, these universes coincide: you can draw two separate circles and call them parallel universes, but between them is material of the A4-paper. Thus, they really belong to single Universe.

Hereby $T_{Dark\ matter}$ satisfies all the requirements for the matter. This means, that space-time anomalies on Earth (in UFO reports) are caused not by a spontaneous change in the Geometry but by damned demons. How are caused? Free Will may severely violate the laws in nature – hence there are UFOs. It is certainly violation of all holy, then crazy mother kills the child in the cradle of life - the womb. Animals do not do that.

Fine-tuning: Dark matter is so specifically tailored, adjust to ordinary matter, so removed away from the solar system, which concludes the Adjuster. Our Galaxy does not need dark matter, when Galaxy was created 7,000 years ago (Young earth creationism), and not for long. During the time before the Second Coming, it will not have time to become impossible for the human existence.

Looking at the success of General Relativity, we should be wary (distrustful) of its modifications (http://en.wikipedia.org/wiki/Dark_matter, <http://arxiv.org/abs/0808.1962>). However, in my case, the Lagrangian of the system remains the standard. Hereby non-baryonic members make sense of Geometry, i.e. Ethers of Einstein. Therefore, they are not baryonic. Such Ether can communicate only non-baryonically, i.e. not strongly, not electro-

weakly. So baryonic matter can not interact with it: such interactional member is not in my Lagrangian (3). I believe, that in many modifications of General Relativity members, which are responsible for the Dark Matter, disappear in the absence of the galaxy (baryonic matter); then there is a rigid linkage of a galaxy to the "Dark Matter" phenomenon. But we have problems to discover Dark Matter in the Solar System (arXiv: 1204.3924v1), therefore such modifications of General Relativity are not justified. I have no rigid linkage, but only the Will of the Creator.

The Universe is expanding, then the percentage of Dark Energy grows and becomes decisive. According to the Biblical Model (<http://vixra.org/abs/1304.0086>) volume of the Universe is finite $V < \infty$. Local characteristics, "pressure", and the dark energy density (Λ) are constant. So the total number ΛV of Dark Energy is growing. And it is against the law of conservation of energy. Loophole: Dark Energy shall be written without material carrier, i.e. into Geometry, as done in this work. Note, that from the Møller formula [4], on which Hawking may was based [3], the energy of the entire Universe is zero. Amazing! The energy of a small dust cloud also turned to zero. Although formula provides (under certain assumptions) conserved quantities also in my case; however, the formula was derived on the assumption that my ethers (Dark Energy and Dark Matter) are simply matter and, therefore, have the energy.

What is space and time? They can also be considered as Einstein's ether in Minkowski spacetime. It has such properties: the speed of light is the same in all inertial reference systems (IRS), physics and Minkowski Geometry (including the Pythagorean theorem) is the same in all IRS. Einstein himself "voted" for such ether, but we preferred to burden our minds with thoughts and doubts about the nature of space and time. Here it is – amazing ether and point! Here in the Lagrangian are three geometric terms (4); these are three kinds of ether: R , Λ and $L_{Dark\ matter}$. And, I suppose, in the Biblical Model the R is different from zero.

The views of Creationists see under "dark matter" in the search engine on <http://creation.com/mond-over-dark-matter>. Quote [5]: "Dark matter is the Vulcan of today. It is a "fudge", with unknown properties, and strange behaviour, such as being in a non-collapsing halo around galaxies". But my thought explains that – the Lagrangian of Dark Matter may be the Lagrangian of fluid, but without the liquid itself. Then the configuration, where the ether envelops the galaxy (as the womb of the mother envelops the

baby), is stable: aeriform "liquid" is attracted to the stars of the galaxy, as if "liquid" is clinging gravitationally to the galaxy; thus, is moving along with galaxy in the Universe. The motion of stars in the ether occurs without any friction or turbulence: lasts would have been due to the baryon (i.e., non-gravitational) interaction, which is absent. But how looks black hole in such "liquid", because there is singularity on the horizon (my paper [2]) – boundless power of attraction? Naturally, it will gravitationally absorb such ether, increasing in size. Hereby due to the absence of baryon interaction in the ether, the X-rays will not come from absorption of the ether. That is probably, partly, why in the centers of galaxies are such huge black holes – they are the gravitational anomalies. Moreover, it is sufficient to consider the perfect "liquid", because inevitable (while the collapse) viscosity would be there because of the baryon interaction (last is absent). If you think, that this contradicts the observations and de-stabilizes the ether in the galaxy (and hence the galaxy itself); then I would say that the existence of black holes is still not fixed by the Nobel Prize. If they are not real, then there is no *information loss* in them (May.2013 Wikipedia: "Black hole information paradox"). Although I do not understand, how information would naturally conserve on the Earth, when there is Quantum Mechanics with its Uncertainty Principle – Omnipotence computer can not calculate the position and shape of the clouds a hundred years ago, and only will give the probability of a given configuration. Moreover incalculable Free Will of the people has created artificial clouds – nuclear explosions. It is notable, that namely Quantum Mechanics has "led" the Hawking to information loss (in black holes).

There is scope for research. Due to the absence of baryonic interaction, the miracle-liquid is not constrained by the surface of the planet (or star) and easily penetrates inside. But suppose a black hole flies inside the "liquid". Due to time-dilation, the layers "slowly" approach the event-horizon. This may left a trail in the liquid, as from overflying aircraft.

III. ANOTHER APPROACH

"Matter-tensor" of ether is not obliged to obey the energy conditions: weak, strong, dominant and the others; because they are for the matter. This means, that one can set by hand any metric (argument Synge) and in the Einstein equation consider $T_{ether} := G/(8\pi) - T_{matter}$, where G is Einstein's tensor. In this case, the covariant derivatives are zero (as must be). This ether will not be sucked into a black hole (note that dark energy is not

sucked) and will not have a trail from the motion of a body (last is not ether). Otherwise it would be difficult calculations. Example: a ball of water (not ether), the Minkowski metric, the pressure in the ball everywhere is zero, $T_{ether} := -T_{matter}$.

The Møller formula does not prohibit [6] in the Schwarzschild geometry to change the mass $M = M(t)$. Just the assumption for the application of the formula is not realized. In General Relativity the Møller formula "gives" the energy. To use the formula, it is necessary to satisfy a condition (assumption). If it is not satisfied, then there is no concept of "energy" in the system. So you can not say definitely, that the energy conserves or not.

Through prayers to God is possible spontaneous appearance of wormholes without *exotic matter* (and other anomalies). Here was the news from 28.05.2010 (the "vanishing rings of Jupiter", <http://evilearth.ru/zagadochnoe-ischeznovenie-kolca-yupitera.html>): science does not know, what happened to the ring of Jupiter. Three months ago it was there and this is not a single case. Perhaps through Will of God the ring fell into a wormholes, which after closed without a trace? Also in terrestrial experiments the particles were anomalously disappeared (possibly); I have read about the loss of neutrons and of a certain abnormal weakening of the particle beam in the LHCollider.

IV. SUMMARY

I thought, that since gravitational waves are spreading (already) independently of the source, then there could be gravitational formations without the substance. Even if instead of the Sun would be Dark Matter, the Earth will rotate around this, as usual. The thing is 'dark' because no one knows exactly "what animal it is". I suppose it is just Gravitation, which is independent of the source; after all, is believed that the Earth is not source of Gravity-field. Earth just affects the field. Einstein has offered to talk about space and time as the ether with miraculous properties. We did not hear him. If we had taken his proposal, then long ago would appeared similar manuscript.

[1] e.g., Lorenzo Reverberi, Curvature Singularities from Gravitational Contraction in f(R) Gravity, arXiv:1212.2870 (also in Phys. Rev. D 87, 084005 (2013))

- [2] Dmitri S. Martila, On Naked Singularities of spacetime Curvature, J Contradicting Results Sci. 1, 9-13 (2012). doi:10.5530/jcrsci.2012.1.4, available from: <http://jcrsci.org>.
- [3] Russell Grigg's opinion <http://creation.com/curiosity-did-god-create-the-universe>
- [4] Florides PS. 2009. On the Tolman and Møller mass-energy formulae in general relativity. J Phys: Conf Ser. 189:012014.
- [5] <http://creation.com/has-dark-matter-really-been-proven>
- [6] it is an external solution of the liquid sphere with the density; which we would consider changing spontaneously in time, i.e. to insert into the metric the anomaly in form $\rho = \rho(t)$ (to show the weakness of the Møller formula, which is unable to weed out even such a thing).