8T – Topologically Invariant Manifolds

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Abstract:

By analyzing the 8T framework and in particular the second representation of the main equation, i.e. universe packets that flatten each other, it is possible to extract a symmetry regarding the topology of each manifold. In particular, each manifold in the universe packet must be topologically invariant. Such a requirement does not imply that the matter distribution is identical.

Introduction

The 8T setting is a Lorentz manifold, $\mathrm{s} = (\mathrm{M}, \mathrm{g})$, with $(3,1)$ signature. The manifold is the connected manifold, invoked stationary, $s = s_0 \times \mathbb{R}$.. The manifold has areas of extremum curvatures that remain as they are overtime, this are yielding time invariant acceleration from them on the matric tensor M, given by the conditions on (1.1). The reason for the acceleration in the 8T is that the manifold is a part of an infinite packet of universes, which interact at areas of extremum curvatures and so flatten each other, given by equations (1.2) and (1.21).

$$\frac{\partial \mathcal{L}}{\partial \mathrm{s}} - \left(\frac{\mathrm{d}}{\mathrm{dt}}\right)\frac{\partial \mathcal{L}}{\partial s'} = 0$$

$$\frac{\partial \mathcal{L}}{\partial \mathrm{s}}\frac{\partial \mathrm{s}}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}}\frac{\partial \mathrm{g}}{\partial \mathrm{t}} - \frac{\partial \mathcal{L}}{\partial \mathrm{s}'}\frac{\partial \mathrm{s}'}{\partial \mathrm{M}}\frac{\partial \mathrm{M}}{\partial \mathrm{g}'}\frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0 \qquad (1)$$

We can require the manifold to those two conditions:

$$\frac{\partial g}{\partial t} = 0 \ , \qquad -\frac{\partial^2 g'}{\partial \mathrm{t}^2} = 0$$

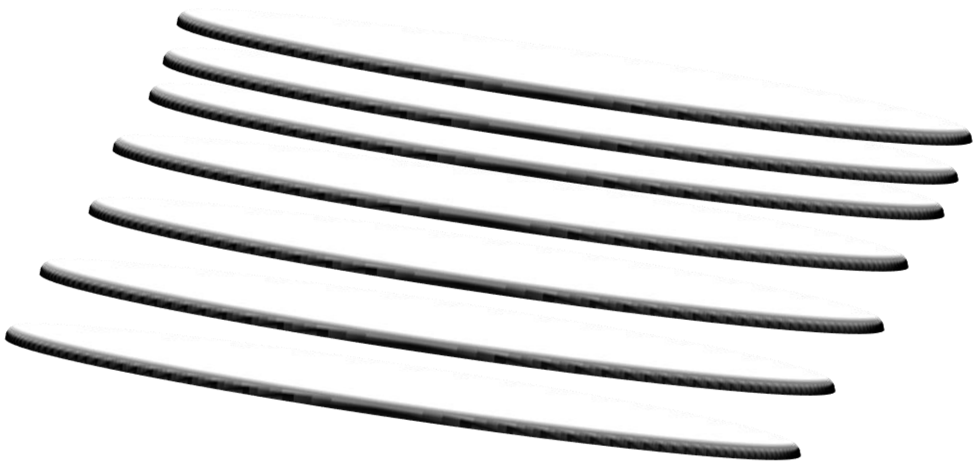
If these two are hold to be true, we have areas of extremum curvature on the manifold and negative time invariant acceleration. The demand of extrunum curvature to stay as they are overtime means the acceleration cannot affect them – if so, directed away from them. This in agreement with what we speculate as "dark energy". Notice that M is now the matric tensor, g is the Ricci flow. That is the result of parametrizing the manifold to "s" variable and inserting it to EL operator, yielding agreement with Einstein principle of equivalence. Alternatively we represented in the thesis the equation (1.1) by assuming there are infinite amount of stationary manifolds, interacting with each other via areas of extremum curvatures.

$$\frac{\partial \mathcal{L}}{\partial S_1} - \sum_{n=2}^{\infty} \frac{\partial \mathcal{L}}{\partial S_n} = 0 \quad (1.1)$$

$$\frac{\partial \mathcal{L}}{\partial S_1} \frac{\partial S_1}{\partial M} \frac{\partial M}{\partial g} \frac{\partial g}{\partial t} - \sum_{n=2}^{\infty} \frac{\partial \mathcal{L}}{\partial S_n} \frac{\partial S_n}{\partial M} \frac{\partial M}{\partial g} \frac{\partial g}{\partial t} = 0 \quad (1.2)$$

The implicit assumption of equation of (1.2) is that in order of the universe packet to flatten each other the curvatures on the manifolds must be interfacing. That is synonymous with stating that the universe packet must have topologically invariant manifolds, or manifolds in which the extremum curvature distribution is identical on the matric tensor. That is because in the manifolds flatten each other due to the interaction of those areas, if they are not interacting the flattening, i.e. dark energy would not be correct. It is possible to prove that if there were only two manifolds, which are not interacting with each other via those areas, equation (1.2) will not be correct; the universe would not be flat as we measure it today.

The requirement of the universe packet than imposes a symmetry in a sense that only topologically invariant manifolds are "allowed" on the packet. We do not know whether it is actually the case but so it seems by equation (1.2) and the "thought experiment" of only two manifolds interacting in the packet, assumed different topology. Another point to mention is same topology does mean same matter distribution on each manifold. Distinct manifold can have a dust of gas of certain curvature, which is equivalent to the mass of a certain galaxy on another manifold. Those universes differ from each other in a distance measure which is not known, can could vary as other topologically invariant manifolds enter the packet. Between each manifold pair there is the same base space, Ricci flow, given by the fourth term of (1.2).



The white part is the Ricci flow, the dark part of the above illustration is the matric tensor. As you probably know by now, by taking as an axiom that the prime ring is isomorphic to itself on each distinct manifold in the packet, and in additional taking as stationarity of each Lorentz manifold as an axiom, we can ensure each manifold will obey the same rules. That is at least, Boson wise. By taking those axioms we can ensure that on each manifold the coupling constants series will be "universe invariant". It makes sense to assume that there is only one set of rules to all universe, rather than to assume each manifold has a unique set of rules, nature is Lagrangian oriented also for the number of rules it produces, aspiring to minimize them according to the 8T.

The second main rule alongside (1) which describe the evolution of universes is that fermions are vanishing in even numbers, and bosons are net curvature of discrete amounts, isomorphic to prime numbers or one, given by the primorial. That is equations (1.3) to (1.33):

$$F_{V=0} = 8 + (1) \tag{1.3}$$

$$F_R\# = \left(8 * \prod_{V=1}^{V=R} N_V + (3)\right) + N_V = 30{:}\,128{:}\,850{:}\,9254.. \tag{1.31}$$

$$N_V = 2\left(V + \frac{1}{2}\right);\ \ V \geq 0 \tag{1.32}$$

$$N_V \in \mathbb{P} \ \cup \ (+1)\,;\ \ \mathbb{P} \to Set\ of\ Primes$$

$$N_V = P_{max} \in [0, \mathbb{R}] \ \cup \ (+1)\ ;\ P_{max} \in \mathbb{P}$$

$$8 + (1){:}\, \big(24 + (3)\big) + 3{:}\, \big(120 + (3)\big) + 5{:}\, \big(840 + (3)\big) + 7 \ldots \tag{1.33}$$

$$[(8 * 3) + (3)] + 3 \to \left[2\text{N}1 + \frac{1}{2}\right] + \frac{1}{2} = 2N_1 + 1$$

$$[(24 * 5) + (3)] + 5 \to \left[2\text{N}2 + \frac{1}{2}\right] + \frac{1}{2} = 2N_2 + 1$$

$$[(120 * 7) + (3)] + 7 \to \left[2\text{N}3 + \frac{1}{2}\right] + \frac{1}{2} = 2N_3 + 1$$

References

[1] O. Manor. "8 Theory – The Theory of Everything" In: (2021)