

8T – Effective Lagrangians on Variational Manifolds

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Abstract:

By analyzing the general idea behind the framework of varying curvature, it is possible to present a modern variation of the effective Lagrangian, which taking out ignorable variables. In the 8T framework, the ignorable variables are the higher coupling Bosons rising within the Fermion cluster. They are considered as ignorable variables for two reasons, first due to their alignment time, or lifetime, which aspires zero, the second due to their weakness.

Introduction

Fermions in the 8T and are arbitrary variations which vanish into matter. Those matter combinations appear in such way that no curvature is manifested da facto. Thus we presented the Lagrangian as the kinetic minus the matter distribution, as it represents the potential curvature of the manifold. Using the main equation of the 8T:

$$\frac{\partial \ell}{\partial s} \frac{\partial s}{\partial M_E} \frac{\partial M_E}{\partial g} \frac{\partial g}{\partial t} - \frac{\partial \ell}{\partial s'} \frac{\partial s'}{\partial M_E} \frac{\partial M_E}{\partial g'} \frac{\partial^2 g'}{\partial t^2} = 0 \quad (1)$$

For fermions:

$$\sum_{i=1}^N \delta g_i = 0$$

We have discrete amount of net curvature, which is a subset of the original set that vanished into matter:

$$\left(\sum_{i=1}^m \delta g_i > 0 \right) \in \sum_{i=1}^N \delta g_i = 0$$

Leading to a set:

$$\sum_{i=1}^{N-m} \delta g_i = 0$$

Out of the arbitrary variation belonging to the Bosonic class, it is possible to classify according to a spin criteria, in particular:

$$\begin{aligned} \left(\sum_{i=1}^{m_1} \delta g_i < 2N_k + \frac{3}{2} \right) &\rightarrow A \\ \left(\left(\sum_{i=1}^{m_2} \delta g_i \geq 2N_k + \frac{3}{2} \right) \cap > 0 \right) &\rightarrow B \\ \left(\left(\sum_{i=1}^{m_2} \delta g_i \geq 2N_k + \frac{3}{2} \right) \right) + \left(\sum_{i=1}^{m_1} \delta g_i < 2N_k + \frac{3}{2} \right) &= \sum_{i=1}^m \delta g_i > 0 \end{aligned}$$

That construction yielded the primordial coupling constants series. At the heart of this paper, few subjects will be covered. In particular, can we create an effective Lagrangian, which excludes ignorable variables. The author will attempt in construct this new form using variational manifolds. The kinetic term represent the acceleration of the manifold in an invariant or varying rate, depending on the demand one is imposing. The potential term represent matter formations at immense scale which contain short ranged Bosonic terms which holding them in form. Those are so called "Gravitons" which appear at a Fermion and Lepton reach environment. To avoid the complication of diverging Bosons within the potential term of the Lagrangian we can deem the **spin one Bosons as ignorable variables within the Fermion cluster** that is because their mass pattern and the Boson pattern cancel each other out.

$$(8 - (1)) + (8 + (1)) = 0$$

$$(8 - (1)) + A = 0$$

If the original Lagrangian would be represented as:

$$\begin{aligned} \mathcal{L} &= \frac{\partial^2 g'}{\partial t^2} - \left(\sum_{i=1}^{N-m} \delta g_i + \sum_{i=1}^m \delta g_i \right) \\ &\quad \left(\sum_{i=1}^{N-m} \delta g_i + A + B \right) \\ &\quad \sum_{i=1}^m \delta g_i = A + B \end{aligned}$$

If the Bosons within the Fermion cluster belong to the A cluster, i.e. independent primes, they must be terminated as they cancel with the mass pattern of the Fermion cluster. Such that in the end within a Fermion cluster only higher spin Bosons, such as Gravity count.

$$\begin{aligned} \hat{\mathcal{L}} &= \frac{\partial^2 g'}{\partial t^2} - \left(\sum_{i=1}^{N-m} \delta g_i + B \right) \\ \hat{\mathcal{L}} &= \frac{\partial^2 g'}{\partial t^2} - \left(\sum_{i=1}^{N-m} \delta g_i + \sum_{i=1}^{m_2} \delta g_i \right) \end{aligned}$$

Such that only the Higher coupling Bosons will be presented within the Fermion cluster:

$$\left(\sum_{i=1}^{m_2} \delta g_i > 2N_k + \frac{3}{2} \right)$$

To avoid the second derivatives, the effective Lagrangian:

$$\hat{\mathcal{L}} = \frac{\partial g}{\partial t} - \left(\sum_{i=1}^{N-m} \delta g_i + B \right)$$

Which is varying curvature overtime, synonymous with an acceleration, minus the potential curvature in matter clusters and the higher spin Bosons which are short ranged and formed within the cluster. The Fermion cluster is composed by two arbitrary terms of varying arbitrary curvature, which differ in sign and summed to zero in an even amount. This Lagrangian is assumed true in all the manifolds across the packet, that is because the main equation is index invariant as was proven before, and it is in addition obeying the parity transformation.

Given by the first term, if the fermions are stationary, and no curvature is manifested da facto, than the first term, $\partial g / \partial t$ is describing varying curvature correlated to independent Bosons. In other words, The Independent Bosons dictate the acceleration of the manifold and in particular the Bosons which are composed using a **single prime**. As there exist discrete amounts of prime curvature, the first term can be presented as a summation of arbitrary amounts of curvature, as was previously analyzed the kinetic as a sum of accelerations:

$$\frac{\partial g}{\partial t} = \sum_{\phi=1}^K \left(\frac{\partial g}{\partial t} \right)_{\phi}$$

To making the effective Lagrangian:

$$\hat{\mathcal{L}} = \left(\frac{\partial g}{\partial t} \right)_{\phi} - (\delta g_i + B)$$

$$1 \leq \phi, i \leq k$$

Summing up the idea, the Kinetic term of a varying manifold is a summation of Bosons which diverging across, which are net curvature and are independent. The Potential term of the manifold are the matter clusters which are potential curvature and within them the higher spin Bosons which are holding them together. By the proof of the 8T, those δg_i taking the form of threefold combinations of two distinct elements that differ in sign, and no curvature is allowed the facto. By Requiring:

$$\sum_{i=1}^{m_2} \delta g_i \geq 2N_k + \frac{3}{2}$$

Then excluding the complimentary term A from the Lagrangian to reach the effective form, all the combinations of the independent elements within the Fermion cluster are deemed as ignorable, leaving us only with the higher spin Bosons, and theoretically simplifying the Lagrangian of the manifold.

References

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

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