Stringlets: Towards a More Fundamental Object That Makes up the Strings

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Abstract

A more unified field theory demands a more fundamental object which can make up the vibrating strings in a multiply conjugate attachments that benefits in attaining the unitarity in the form of uniqueness in both the open and closed strings, provided those stringlets can't exist alone but in conjugation makes up the Planck's length with a little difference in the front point boundary of the starting stringlets to the endpoint boundary of the ending stringlets being attached in a loop to form a closed string, or remains unattached to form a open string. The nature of parity can be stated as the difference in the poles of the initial and final arrangements of the stringlets that if is 'opposite' can be attracted to form a loop and if 'unique' can be repulsive to prevent a loop. This paper will discuss the nature of those stringlets in detail which are elastic to provide the freedom of vibration, while the vibrations are taking place using the nodal attachments through the 'points' connecting two stringlets.

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Strings rather 'superstrings' being the fundamental objects of particle creations demand the existence of a more fundamental object that are composite granular or always occurs in multiple conjugations to make up a vibrating string. As a string can be of a mere Planck's length, therefore, it's impossible for each stringlets to occur separately as this demands a further fraction of the Plank's length which is quite absurd in the language of physics. Thereby, if we denote a particular string as ℓ_S then the stringlets can be mathematically expressed in the form,

$$\ell_S = \sum_{i=1}^{n} \mathcal{S}_i$$

This $\mathcal{S}_n$ which is multiple conjugations of many stringlets, can be uniquely taken as a singular identity as $\mathcal{S}_A$ then this can have two poles as attractive one ${\mathcal{S}_A}^+$ and repulsive one ${\mathcal{S}_A}^-$ where the conjugation sequence can be arranged in two ways that in essence makes up the open and closed strings, the open having a sequence of,

$$\mathcal{O} = {\mathcal{S}_A}^+, {\mathcal{S}_A}^-, {\mathcal{S}_A}^+, {\mathcal{S}_A}^-{\mathcal{S}_A}^+, {\mathcal{S}_A}^-{\mathcal{S}_A}^+{\mathcal{S}_A}^-, \dots \dots \dots \dots$$

While the closed having a sequence of,

$$C = {\mathcal{S}_A}^+, {\mathcal{S}_A}^-, {\mathcal{S}_A}^+, {\mathcal{S}_A}^-{\mathcal{S}_A}^+, {\mathcal{S}_A}^-{\mathcal{S}_A}^+({\mathcal{S}_A}^-)^{-1}, \dots \dots \dots \dots$$

Provided, the relations $({\mathcal{S}_A}^-)^{-1} = {\mathcal{S}_A}^+$ or $({\mathcal{S}_A}^+)^{-1} = {\mathcal{S}_A}^-$ having the opposite polarity taken as an inverse of its respective poles. Thus the configurations of the closed strings satisfy the roundabout relations as compared to endpoints attachments as,

$$({\mathcal{S}_A}^-)^{-1} \hookrightarrow {\mathcal{S}_A}^+ \text{ or } ({\mathcal{S}_A}^+)^{-1} \hookrightarrow {\mathcal{S}_A}^-$$

Provided the attachment relations satisfy the joining or mutual attraction of two poles as regard to the closed strings. However, in case of the open strings, the above conditions are not satisfied as a suitable attraction point rather they will satisfy as a suitable repulsion point as seen through,

$$\mathcal{S}_A{}^{+} \ \overrightarrow{\times} \ \mathcal{S}_A{}^{+} \text{ or } \mathcal{S}_A{}^{-} \ \overrightarrow{\times} \ \mathcal{S}_A{}^{-}$$

It is to be noted that, strings being charged can satisfy the condition of poles which is further attributed to the stringlets that can be a small attached point of the respective polarity conjugations, that in many numbers happens to be a full string at Planck's length. It is however mentioned that, the conditions of uniqueness can satisfy both the open strings like 'photons' and closed strings like 'gravitons' having the common relations attributed to either of its constituents as,

$$\mathcal{S}_A{}^{+}, \mathcal{S}_A{}^{-} \in \mathcal{O}$$

$$\mathcal{S}_A{}^{+}, \mathcal{S}_A{}^{-} \in \mathcal{C}$$

This uniqueness solves the most fundamental equations of motions when the attribution is defined on the total string scales as,

$$\ell_S \longrightarrow \left[\frac{1}{2}\left(\frac{\partial x}{\partial \tau} + \frac{\partial x}{\partial \sigma}\right) = -\frac{1}{2}\left(\frac{\partial x}{\partial \tau} - \frac{\partial x}{\partial \sigma}\right)\right]_{\mathcal{S}_n}$$

Integrating out the complete segregation procedures endure an integral to be of the form of open and closed strings attributes to,

$$\int_{\mathcal{S}_A{}^{-}}^{\mathcal{S}_A{}^{+}} \left[\frac{1}{2}\left(\frac{\partial x}{\partial \tau} + \frac{\partial x}{\partial \sigma}\right) = -\frac{1}{2}\left(\frac{\partial x}{\partial \tau} - \frac{\partial x}{\partial \sigma}\right)\right] \, d\mathcal{S}_n$$

$$\oint_{\mathcal{S}_A{}^{-}}^{\left(\mathcal{S}_A{}^{+}\right)^{-1}} \left[\frac{1}{2}\left(\frac{\partial x}{\partial \tau} + \frac{\partial x}{\partial \sigma}\right) = -\frac{1}{2}\left(\frac{\partial x}{\partial \tau} - \frac{\partial x}{\partial \sigma}\right)\right] \, d\mathcal{S}_n$$

Where the alternative substitute can be taken the form in case of open and closed strings respectively as,

$$\int_{\mathcal{S}_A{}^{+}}^{\mathcal{S}_A{}^{-}} \left[\frac{1}{2}\left(\frac{\partial x}{\partial \tau} + \frac{\partial x}{\partial \sigma}\right) = -\frac{1}{2}\left(\frac{\partial x}{\partial \tau} - \frac{\partial x}{\partial \sigma}\right)\right] \, d\mathcal{S}_n$$

$$\oint_{\mathcal{S}_A{}^{+}}^{(\mathcal{S}_A{}^{-})^{-1}} \left[\frac{1}{2}\left(\frac{\partial x}{\partial \tau} + \frac{\partial x}{\partial \sigma}\right) = -\frac{1}{2}\left(\frac{\partial x}{\partial \tau} - \frac{\partial x}{\partial \sigma}\right)\right] \, d\mathcal{S}_n$$

Thus achieving the suitable conditions for strings.

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