excitation having their own little differences. Again, therefore, we shall restrict ourselves here to the transverse vibration in string excited mainly by plucking it.

Before proceeding further, we may as well understand clearly what a string. Any such purpose may be defined as a wire or a cord, homogeneous in composition and having a uniform area of cross section. So that its mass per unit length or its linear density is the same all along it. Further, it should be perfectly flexible so as to be able to bend without giving rise to any viscous force in its material. That is it should have no stiffness, and finally, it should not yield when under tension, so that there is no increase in its length. For all practical purposes a long infinitely thin and flexible wire or cord of a uniform composition and area of cross section may be considered to be a string.

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Vibrations of String

As long as the mass per unit length and the string tension is constant, The law of length states that the frequency of ~~a~~ each stretched string's vibration and its resonating length fluctuates inversely or.

"String theory is a theoretical framework that ~~aim~~ aims to unify all the fundamental forces of nature into a single, consistant mathematical framework"

Formula for string vibration →

The frequency of vibration of a string is

$f = n2L\sqrt{Tm}$, Where T is tension in the string, L is the length, n is number of harmonics. The dimensional formula for m is $[M^0LT]$ and

A string may be made to excute longitudinal transverse as well as torsional vibrations We shall, however, concern ourselves here with its transverse mode of vibration, thus being the chief source of most musical sound and hence the bases of a host of musical instruments. Now a transverse vibration in a string may be excited by plucking, hammering or bowing it, as in the case of the guitar, the pianoforte and the violin respectively. all these different mode of