

- **For the verification of law of tension:**

S.N.	Frequency of tuning fork f (Hz)	Tension on the String $T = Mg$ (N)	Resonating length l (m)	Square of resonating length l^2 (m^2)	$\frac{T}{l^2}$ (a constant)	Remarks
1.						
2.						
3.						

RESULT:

From the above table, the product of frequency of tuning fork and corresponding resonating length, for a given load has been found to be constant. Similarly, the product of tension on wire and reciprocal of square of resonating length, for a fixed frequency of tuning fork has been found to be constant.

CONCLUSION:

The law of length and the law of tension of transverse vibration in a string has been verified by using a sonometer.

SOURCES OF ERROR:

1. The error may be due to the friction between the string and the pulley.
2. The error may be due to the presence of kinks in the wire.
3. The error may be due to the carelessness of the experimenter.
4. The error may be due to the improper contact between the string and the bridges.

PRECAUTIONS:

1. There should not be kinks in the wire.
2. The position of the resonance should be identified with great care.
3. There should be proper contact between the bridges and the string.
4. The vibrating tuning fork should be placed in between the bridges with its stem perfectly vertical over the surface of sonometer.
5. The paper rider should be at the midpoint between the bridges.