<u>Experiment Name</u>: To verify the laws of transverse vibration of strings and to determine the frequency of a tuning fork by Melde's experiment.

Experimental Data:

(A) Mass of the scale pan , w = 23.4 gm

(B) Length of the sample thread, L = 204 cm.

Mass of the thread, M = 0.8 gm

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Mass per unit length of the thread, $m = \frac{M}{L}$ $= 3.92\times10^{-3}$ gm/cm.

Table: 1 Transverse position

No. of observation	Total no of loops between the fixed ends	Load on the scale pan (w_t) gm	Tension T= Wg =(w+w_t)g dynes	Distance between the pins (G)	No. of loops between the pins (N)	Length of a segment $l = \frac{G}{N}$	$\frac{T}{l^2}$ = const	Frequency of the string $n' = \sqrt{\left(\frac{1}{m}\times\frac{T}{4l^2}\right)}$	Frequency of the n= n`
1	5	0	23932	116	5	23.2	42.6	52.123	52.123
2	4	5	27832	98.5	4	24.63	45.8	54.093	54.093
3	3	10	32732	80	3	26.67	46.02	21.175	21.175
4	2	15	37632	63	2	31.5	37.93	49.183	49.183