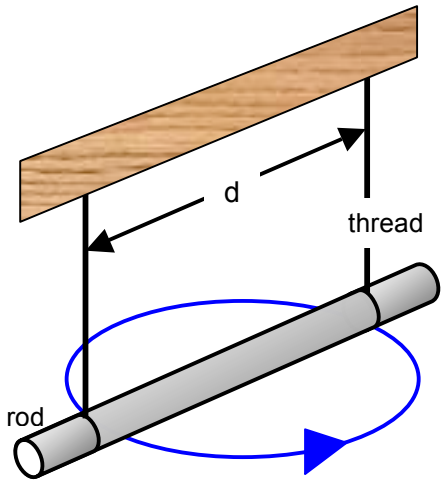
BIFILAR SUSPENSION

AIM:
The aim of the experiment is to investigate the behaviour of a rod suspended by two threads and to suggest an equation for the motion.



YOU WILL NEED:
A metre rule as a support Thread Sticky tape for fixing the threads to the metre rule Scissors Two retort stands (each with a boss and a clamp) Metal rod (about 30 cm and with a diameter of between 0.5 and 1.5 cm Stopwatch

WHAT TO DO:
Set up the apparatus as shown making sure that the two threads are parallel. Oscillate the rod through a small angle in the horizontal plane.

Make two sets of measurements of the time period for the oscillation:-
(i) vary the thread separation (d) keeping the length of the threads (L) constant
(ii) vary L keeping d constant.

Record the time for 10 oscillations and hence calculate the period (T).

ANALYSIS AND CONCLUSION:
Plot two graphs:-
(i) L against T^2
(ii) T against L/d

Suggest an equation of motion for the system.