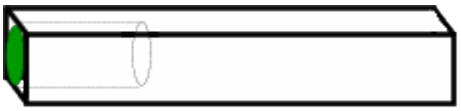
EXPERIMENTAL EXAMINATION

Problem A DETERMINING THE MASS AND LENGTH OF AN INACCESSIBLE ROD

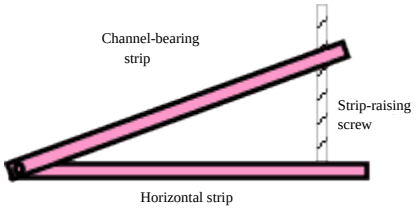


Aim:
Determine the mass and length of the rod inside the tube.

Equipment provided
An aluminium tube of uniform square cross-section, with a uniform solid rod inserted at one end.
A sample of the hollow aluminium tube.
Two L-shaped aluminium supports.
A wooden ruler.
A balance.
NOTE: You need not use every item provided.

THE REPORT MUST INCLUDE:
A theoretical analysis of the problem (4 points).
A brief description of the experimental strategy (2 points).
Determination of the inaccessible rod mass and length, with justified error estimates (6 points).

Problem B DETERMINING THE COEFFICIENT OF STATIC FRICTION



Aim
Determine the coefficient of static friction between a channel bent through a right angle and a small aluminium block.

Equipment provided
A small aluminium block.
An aluminium channel bent through a right angle, fixed to a wooden strip that can pivot about another horizontal strip by means of a screw mechanism.
A ruler graduated in millimetres.
A set square graduated in millimetres.