

bead parabola accelerometer

An accelerometer is made of a piece of wire in the shape of a parabola $y = kx^2$ with a bead on it that can slide without friction, as shown in the drawing. The bead is initially attached to the wire at the lowest point of the parabola. The wire is accelerated with a constant acceleration parallel to the x -axis, and then the bead is released. Find the relationship between the acceleration a of the wire and the bead's maximum horizontal displacement x relative to the wire.

Solution Notes by Michael A. Gottlieb

