Theoretical Mechanics, Quiz 10: KIN ENERGY

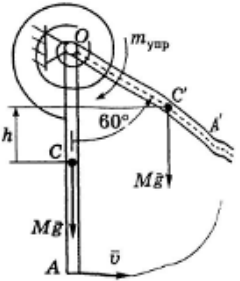
Change of Kinetic Energy of a System

INNOPOLIS UNIVERSITY

Quiz 10

A homogeneous rod OA of length l and mass M can rotate around a horizontal fixed axis O passing through its end perpendicular to the plane of the figure. A coil spring, whose coefficient of elasticity is c, is attached at one end to the fixed axis O and at the other end to the rod. The rod is at rest in a vertical position, and the spring is not deformed.

What speed must be given to the end A of the rod to make it deflect from the vertical by an angle equal to 60°?



Quiz 10, Task 1