

1. 当角度为 φ 时 可知

$$F_A = mg \tan \varphi$$

$$F_A \sin \varphi = m \frac{v^2}{r}$$

$$\frac{1}{2}mv^2 = mgr(\cos \varphi - \cos \theta)$$

可联立得 $\cos \varphi = \frac{1}{3} \cos \theta \pm \sqrt{\frac{1 + \cos^2 \theta}{3}}$

$\cos \theta = 0.1$ 故 $\cos \varphi = \frac{1}{30} \pm \sqrt{\frac{1 + 0.01}{3}}$

$\cos \varphi \approx 0.61$ (-0.54 舍去)

完整版，请访问www.kaoyancas.net 科大科院考研网，专注于中科大、中科院考研



2. $V_x = V_1 \cos \theta$ $V_y = V_1 \sin \theta$