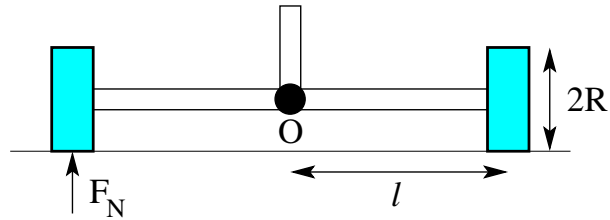


[mex175] Heavy wheels

The axes of two wheels (solid disks of mass m and radius R) are free to bend vertically about point O . A motor forces the axes to rotate with angular velocity ω about the vertical axis through O while the two wheels on the ground move in a circle of radius ℓ . Find the normal force F_N between each wheel and the ground by performing the calculation (a) in the inertial frame and (b) in the frame rotating with the vertical axis.



Solution: