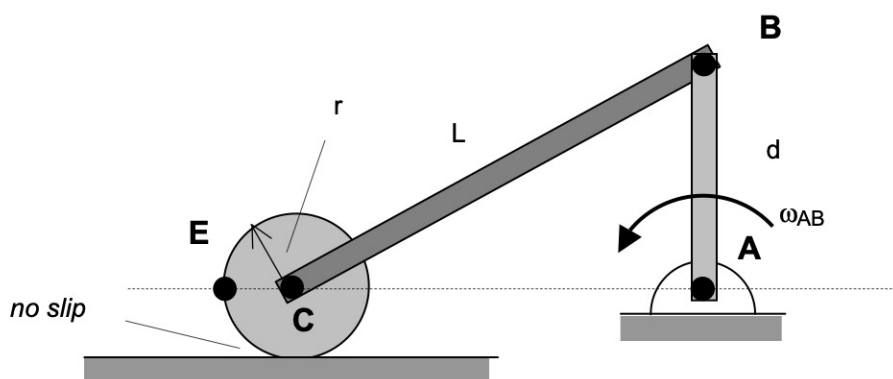


Homework H.2.I

Given: A mechanism is made up of links AB and BC and a wheel pinned to BC at the wheel's center C. The wheel rolls without slipping on a horizontal surface. Link AB rotates counterclockwise with a constant rate of ω_{AB} . At the instant shown, link AB is vertical.

Find: For this position:

- Determine the angular velocity of link BC and the wheel. Write your answers as vectors.
- Determine the angular acceleration of link BC and the wheel. Write your answers as vectors.



Use the following parameters in your analysis: $r = 0.5$ m, $L = 2$ m, $d = 1$ m and $\omega_{AB} = 7$ rad/s. You may solve the problem using the method of instant centers and/or by adopting a vector approach.