DYNAMICS ASSIGNMENT

Planar Kinematics of a Rigid Body (Relative Motion using Rotating Axes)
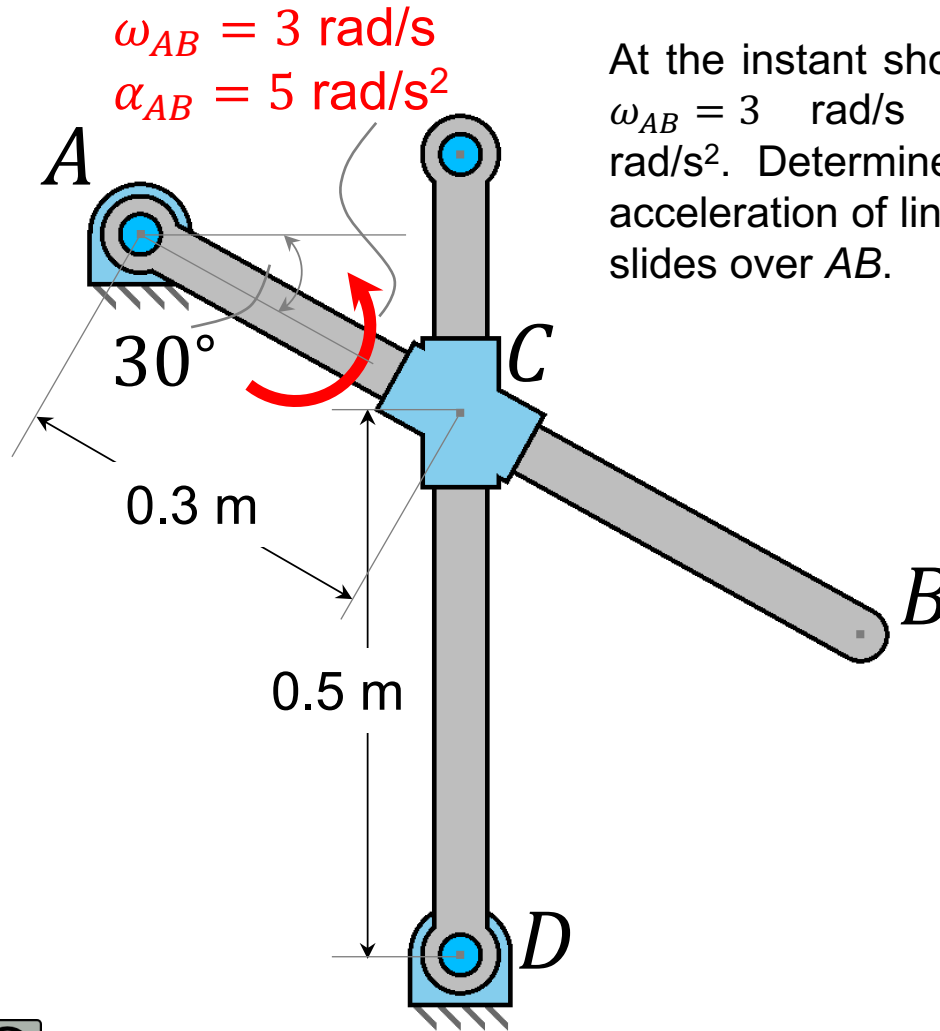
by:

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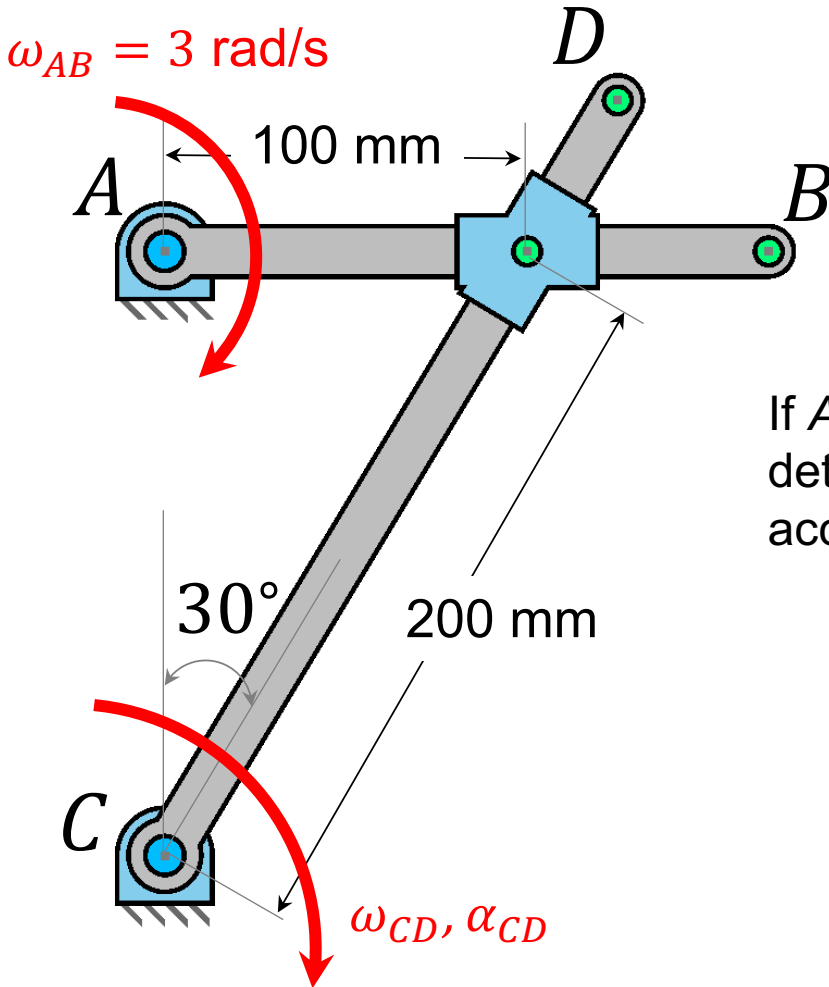**Faculty of Manufacturing Engineering**

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Communitising Technology

$\omega_{AB} = 3$ rad/s
$\alpha_{AB} = 5$ rad/s^2

A

30°

0.3 m

0.5 m

C

B

D

At the instant shown, link *AB* has an angular velocity $\omega_{AB} = 3$ rad/s and angular acceleration $\alpha_{AB} = 5$ rad/s^2. Determine the angular velocity and angular acceleration of link *CD* at this instant. Not that collar *C* slides over *AB*.

$\omega_{AB} = 3$ rad/s

100 mm

A

B

D

30°

200 mm

C

ω_{CD}, α_{CD}

If *AB* is rotating at a constant rate of 3 rad/s, determine the angular velocity and angular acceleration of link *CD*.