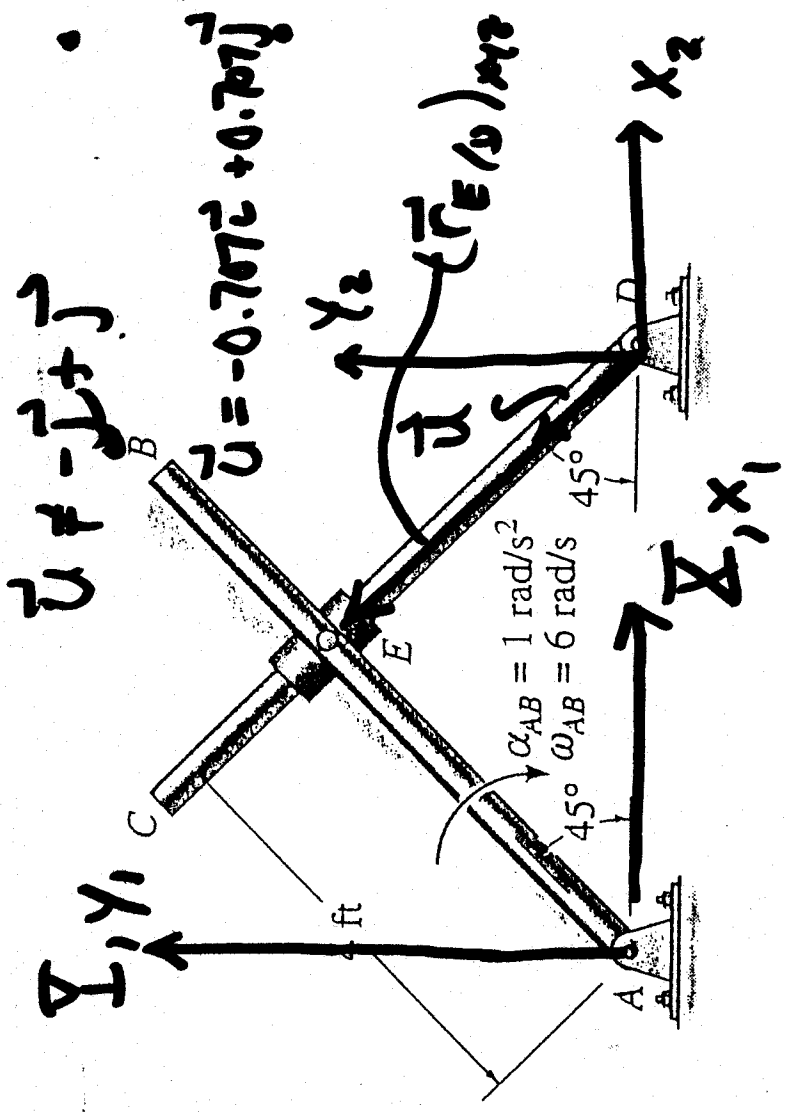


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$\vec{U} = -\vec{j} + \vec{j}$ • x_1, y_1 rotates with AB

$\vec{U} = -0.707\vec{i} + 0.707\vec{j}$ x_2, y_2 rotates with CD

$\vec{U} \cdot \vec{i}, \vec{j}$ at this instant all points in the same dir.



$$\vec{V}_A = 0\vec{i} + 0\vec{j} \quad (\vec{a}_{E/A})_{xyz} = 0\vec{i} + 0\vec{j} \quad \vec{V}_B = 0\vec{i} + 0\vec{j}$$

$$(\vec{v}_{E/A})_{xyz} = 0\vec{i} + 0\vec{j} \quad (\vec{v}_{E/B})_{xyz} = (V_{EB})_{xyz} = (V_{EB})_{xyz}(-0.707\vec{i} + 0.707\vec{j})$$

$$\vec{J}_{AB} = -6\vec{k} \quad (\vec{r}_{E/A})_{xyz} = 4(-0.707\vec{i} + 0.707\vec{j})$$

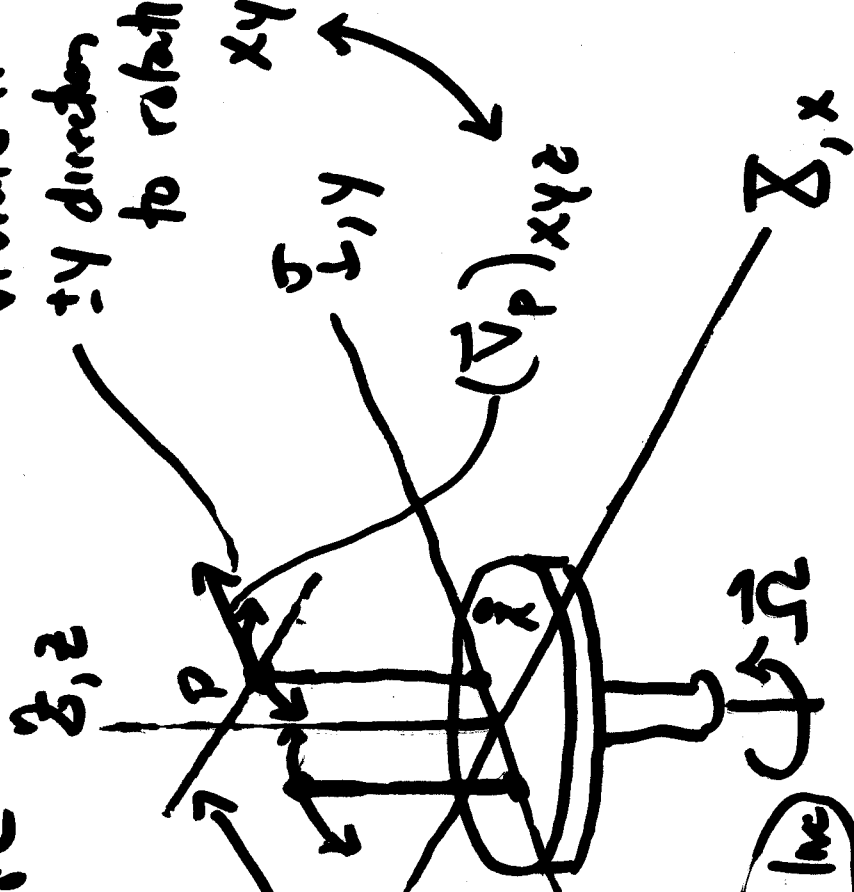
$$(\vec{r}_{E/A})_{xyz} = 0.707(4)\vec{i} + 0.707(4)\vec{j} \quad \vec{\omega}_B = 0\vec{i} + 0\vec{j}, \quad \vec{J}_{EB} = (\omega_{EB})\vec{k}$$

$$\vec{J}_{AB} = -1\vec{k} \quad (\vec{\alpha}_{E/A})_{xyz} = (0.707)(-0.707\vec{i} + 0.707\vec{j})$$

University of Idaho Application of the Coriolis Force

Tuning Fork Gyroscope

vibrate in in
xy direction relative
to rotating frame
xyz.



Ω - Fixed Inertial Frame

xyz - rotates with TF at $\vec{\Omega}$ relative to fixed frame

dir along this line

$$\vec{\omega}_c = 2 \vec{\Omega} \times (\vec{v}_p)_{xyz}$$

Ω, x