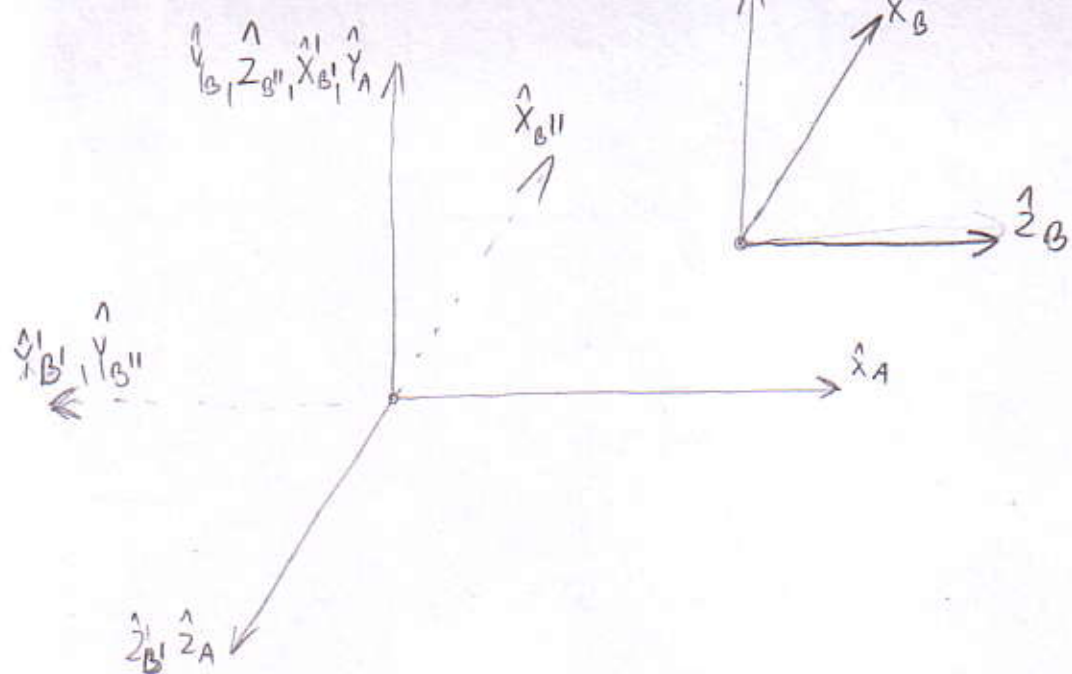


Katę Euler z-Y-X



$${}^A R_B = \begin{bmatrix} \hat{x}_B \cdot \hat{x}_A & \hat{y}_B \cdot \hat{x}_A & \hat{z}_B \cdot \hat{x}_A \\ \hat{x}_B \cdot \hat{y}_A & \hat{y}_B \cdot \hat{y}_A & \hat{z}_B \cdot \hat{y}_A \\ \hat{x}_B \cdot \hat{z}_A & \hat{y}_B \cdot \hat{z}_A & \hat{z}_B \cdot \hat{z}_A \end{bmatrix}$$

$${}^A \bar{p}_{ORG} = \begin{bmatrix} 2 \\ 3 \\ 1 \end{bmatrix}$$

$${}^B \bar{p} = \begin{bmatrix} 2 \\ 2 \\ 2 \end{bmatrix}$$

ZYX
 $\psi = \frac{\pi}{2}$
 $\theta = \frac{\pi}{2}$
 $\phi = \frac{\pi}{2}$

$${}^A R_B = {}^A R_{B'} \cdot {}^{B'} R_{B''} \cdot {}^{B''} R_{B'''}$$

$${}^A R_B = \begin{bmatrix} 0 & -1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 0 & 0 & 1 \\ 0 & 1 & 0 \\ -1 & 0 & 0 \end{bmatrix} \begin{bmatrix} 1 & 0 & 0 \\ 0 & 0 & -1 \\ 0 & -1 & 0 \end{bmatrix} =$$

$$= \begin{bmatrix} 0 & -1 & 0 \\ 0 & -0 & 1 \\ -1 & 0 & 0 \end{bmatrix} \cdot \begin{bmatrix} 1 & 0 & 0 \\ 0 & 0 & -1 \\ 0 & -1 & 0 \end{bmatrix} = \begin{bmatrix} 0 & 0 & -1 \\ 0 & -1 & 0 \\ -1 & 0 & 0 \end{bmatrix}$$