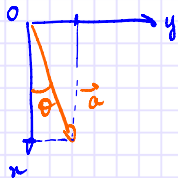
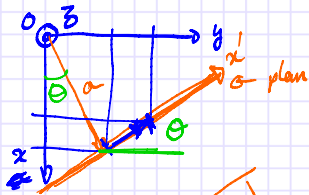


Exercise

$\vec{a}$ dans (O, x, y)



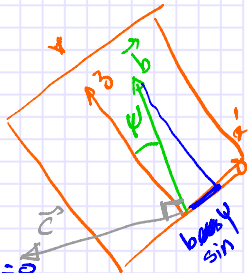
$$\vec{a} \begin{cases} a \cos \theta \\ a \sin \theta \\ 0 \end{cases}$$



$$\vec{b} \begin{cases} -b \sin \psi \times \sin \theta \\ +b \sin \psi \times \cos \theta \\ b \cos \psi \end{cases}$$

$$\vec{b} \cdot \vec{a} = 0 \quad \vec{b} \begin{cases} b_x \\ b_y \\ b_z \end{cases}$$

$$\vec{b} \cdot \vec{a} = b_x a \cos \theta + b_y a \sin \theta = 0$$



Exercise

$$|\vec{b}| = b \quad b_x^2 + b_y^2 + b_z^2 = b^2$$

$$b_z = b \cos \psi$$

$$\vec{a} \begin{vmatrix} a \cos \theta \\ a \sin \theta \\ 0 \end{vmatrix}$$

$$\vec{b} \begin{vmatrix} -b \sin \psi \sin \theta \\ b \sin \psi \cos \theta \\ b \cos \psi \end{vmatrix}$$

$$\vec{c} \begin{vmatrix} ab \sin \theta \cos \psi \\ -ab \cos \theta \cos \psi \\ ab [\underbrace{\cos^2 \theta \sin \psi + \sin^2 \theta \sin \psi}_{\sin \psi [\cos^2 \theta + \sin^2 \theta]}] \end{vmatrix}$$

1

$$\vec{c} \begin{vmatrix} ab \sin \theta \cos \psi \\ -ab \cos \theta \cos \psi \\ ab \sin \psi \end{vmatrix}$$

3) $\vec{a} \cdot \vec{c} = 0$ $\text{car } \vec{c} = \vec{a} \wedge \vec{b} \perp \vec{a}$ $\vec{b} \cdot \vec{c} = 0$

$$|\vec{c}| = |\vec{a} \wedge \vec{b}| = |\vec{a}| \cdot |\vec{b}| \cdot \underbrace{\sin(\angle \vec{a}, \vec{b})}_1 = ab$$