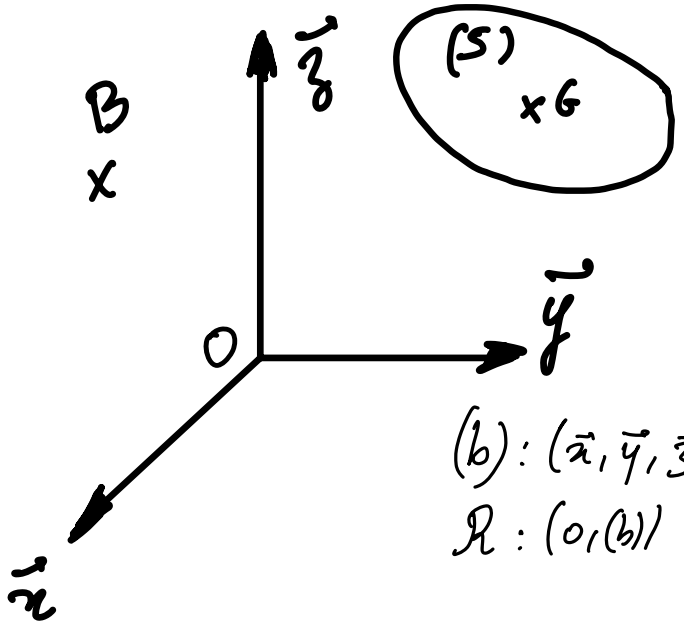
HUYGENS



$$\overrightarrow{OG}\begin{vmatrix} x_G \\ y_G \\ (b)\ z_G \end{vmatrix}$$

$(b) : (\vec{x}, \vec{y}, \vec{z})$

$\mathcal{R} : (O, (b))$

$$\overline{\overline{I}}(O,S)\,\vec{u} = \overline{\overline{I}}(G,S)\,\vec{u} + m\,\overrightarrow{OG} \wedge (\vec{u} \wedge \overrightarrow{OG})$$

$$\int_{P\in S} \overrightarrow{OP} \wedge (\vec{u} \wedge \overrightarrow{OP})\,dm = \begin{pmatrix} \int_{P\in S}(y^2+z^2)\,dm & -\int_{P\in S} xy\,dm & -\int_{P\in S} xz\,dm \\ -\int_{P\in S} xy\,dm & \int_{P\in S}(x^2+z^2)\,dm & -\int_{P\in S} yz\,dm \\ -\int_{P\in S} xz\,dm & -\int_{P\in S} yz\,dm & \int_{P\in S}(x^2+y^2)\,dm \end{pmatrix} \begin{pmatrix} u_1 \\ u_2 \\ u_3 \end{pmatrix}$$

$$m\,\overrightarrow{OG} \wedge (\vec{u} \wedge \overrightarrow{OG}) = \underbrace{\begin{bmatrix} m(y_G^2+z_G^2) & -m x_G y_G & -m x_G z_G \\ -m x_G y_G & m(x_G^2+z_G^2) & -m y_G z_G \\ -m x_G z_G & -m y_G z_G & m(x_G^2+y_G^2) \end{bmatrix}_{\mathcal{R}} \vec{u}}_{J(O,\,G(m))}$$

Huygens $\quad J(O,S) = J(G,S) + J(O,G(m))$

$$J(G,S) = J(0,S) - J(0,G(m))$$