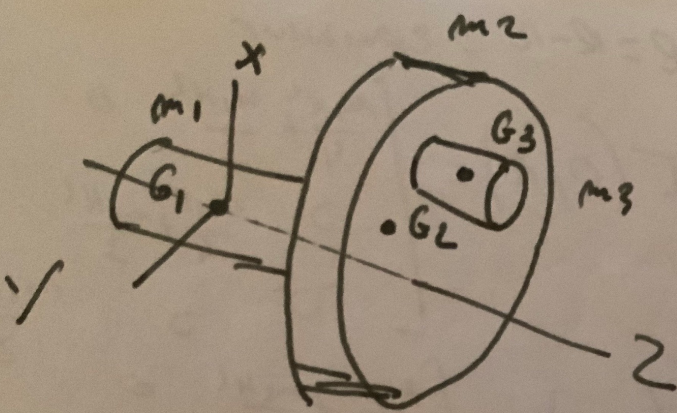




$$\vec{G_1 G_2} = a_2 \vec{x} + c_2 \vec{z}$$

$$\vec{G_1 G_3} = a_3 \vec{x} + c_3 \vec{z}$$

$$I(G_1, C_1) = \begin{pmatrix} A_1 & 0 \\ 0 & A_1 c_1^2 \end{pmatrix}_R$$

$$I(G_2, C_2) = \begin{pmatrix} A_2 & 0 \\ 0 & A_2 c_2^2 \end{pmatrix}_R$$

$$I(G_3, C_3) = \begin{pmatrix} A_3 & 0 \\ 0 & A_3 c_3^2 \end{pmatrix}_R$$

$$I(G_1, S) =$$

$$S = (S_1 \cup S_2 \cup S_3)$$

$$I(G_1, S) = I(G_1, C_1) + I(G_1, C_2) + I(G_1, C_3)$$

$$I(G_1, C_2) = I(G_2, C_2) + I(G_1, G_2(m_2))$$

$$I(G_1, C_3) = I(G_3, C_3) + I(G_1, G_3(m_3))$$

$$I(G_1, G_2(m_2)) = \begin{bmatrix} m_2 c_2^2 & 0 & -m_2 a_2 c_2 \\ 0 & m_2 (a_2^2 + c_2^2) & 0 \\ -m_2 a_2 c_2 & 0 & m_2 a_2^2 \end{bmatrix}_R$$

$$\vec{G_1 G_2} = \begin{pmatrix} a_2 \\ 0 \\ c_2 \end{pmatrix}_R$$

$$I(G_1, G_3(m_3)) = \begin{bmatrix} m_3 c_3^2 & 0 & -m_3 a_3 c_3 \\ 0 & m_3 (a_3^2 + c_3^2) & 0 \\ -m_3 a_3 c_3 & 0 & m_3 a_3^2 \end{bmatrix}_R$$

$$\vec{G_1 G_3} = \begin{pmatrix} a_3 \\ 0 \\ c_3 \end{pmatrix}_R$$

$$I(G_1, S) = \begin{bmatrix} A & 0 & -E \\ 0 & B & 0 \\ -E & 0 & C \end{bmatrix}$$

$$A = A_1 + A_2 + A_3 + m_2 c_2^2 + m_3 c_3^2$$

$$B = A_1 + A_2 + A_3 + m_2 (a_2^2 + c_2^2) + m_3 (a_3^2 + c_3^2)$$

$$C = C_1 + C_2 + C_3 + m_2 a_2^2 + m_3 a_3^2$$

$$E = -m_2 a_2 c_2 - m_3 a_3 c_3$$