

$$\underline{\underline{I}} = m \underline{\underline{V}}_S$$


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$$\underline{\underline{\Pi}}_S = \underline{\underline{\Theta}}_S \underline{\underline{\omega}}$$

$$\underline{\underline{\Pi}}_A = \underline{\underline{\Theta}}_A \underline{\underline{\omega}} + \underline{\underline{r}}_{AS} \times (m \cdot \underline{\underline{V}}_A)$$

$$\underline{\underline{\Pi}}_A = \underline{\underline{\Pi}}_S + \underline{\underline{r}}_{BS} \times \underline{\underline{I}}$$


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$$\underline{\underline{\Theta}}_A = \underline{\underline{\Theta}}_S + \underline{\underline{\Theta}}_{AS}$$

$$\underline{\underline{\Theta}}_{AS} = m \left( (\underline{\underline{r}}_{AS} \underline{\underline{r}}_{AS}^T) \underline{\underline{I}} - \underline{\underline{r}}_{AS} \underline{\underline{r}}_{AS}^T \right)$$

$$\underline{\underline{\Theta}}_{AS} = \underline{\underline{\Theta}}_{SA}$$

