

1). 整体对A点力矩平衡  $\Rightarrow R_B \cdot d = P \cos \alpha \cdot d + P \sin \alpha \cdot \frac{d}{2}$

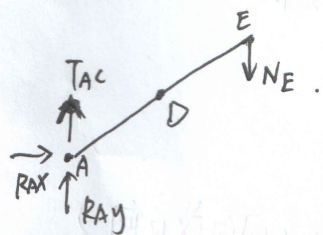
$$\Rightarrow R_B = P \cos \alpha + \frac{1}{2} P \sin \alpha$$

2). 整体合力为0,  $\Rightarrow \begin{cases} R_{AX} + P \cos \alpha = 0 \\ R_{AY} + R_B - P \sin \alpha = 0 \end{cases} \Rightarrow \begin{cases} R_{AX} = -P \cos \alpha \\ R_{AY} = \frac{1}{2} P \sin \alpha - P \cos \alpha \end{cases}$

3). CE杆对C点力矩平衡  $\Rightarrow N_E \cdot d = P \sin \alpha \cdot \frac{d}{2} \Rightarrow N_E = \frac{1}{2} P \sin \alpha$

4). 设AC杆内力为  $T_{AC}$ , (正代表拉)

对于ADE杆, 对D点力矩平衡,



$$\frac{1}{2} P \sin \alpha \cdot \frac{d}{2} + (T_{AC} + \frac{1}{2} P \sin \alpha - P \cos \alpha) \cdot \frac{d}{2} + P \cos \alpha \cdot \frac{d}{2} = 0$$

$$\Rightarrow T_{AC} = -P \sin \alpha \quad (\text{压力})$$