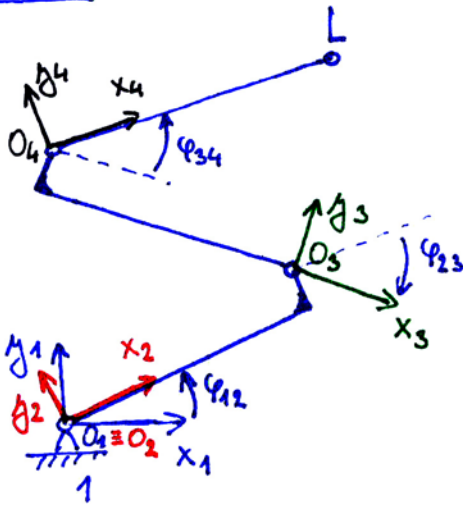


Dáno:  $l, d, h, \omega_{12} = \text{konst},$   
 $\omega_{23} = \text{konst}, \omega_{34} = \text{konst}$

Určit: Pohyb koncového bodu L  
 (pumpa na beton)

Řešení:



$$\varphi_{12} = \omega_{12} t$$

$$\varphi_{23} = \omega_{23} t$$

$$\varphi_{34} = \omega_{34} t$$

$${}^1 \underline{v}_{4L} = \underline{T}_{12} \cdot \underline{T}_{23} \cdot \underline{T}_{34} \cdot {}^4 \underline{v}_{4L}$$

$$\underline{T}_{12} = \underline{T}_{\varphi}(\varphi_{12}) = \underline{T}_{\varphi}(\omega_{12} \cdot t)$$

$$\underline{T}_{23} = \underline{T}_x(l) \cdot \underline{T}_y(d) \cdot \underline{T}_{\varphi}(-\varphi_{23}) = \underline{T}_x(l) \cdot \underline{T}_y(d) \cdot \underline{T}_{\varphi}(-\omega_{23} t)$$

$$\underline{T}_{34} = \underline{T}_x(-l) \cdot \underline{T}_y(d) \cdot \underline{T}_{\varphi}(\varphi_{34}) = \underline{T}_x(-l) \cdot \underline{T}_y(d) \cdot \underline{T}_{\varphi}(\omega_{34} \cdot t)$$

$${}^4 \underline{v}_{4L} = \begin{bmatrix} l \\ 0 \\ 1 \end{bmatrix}$$