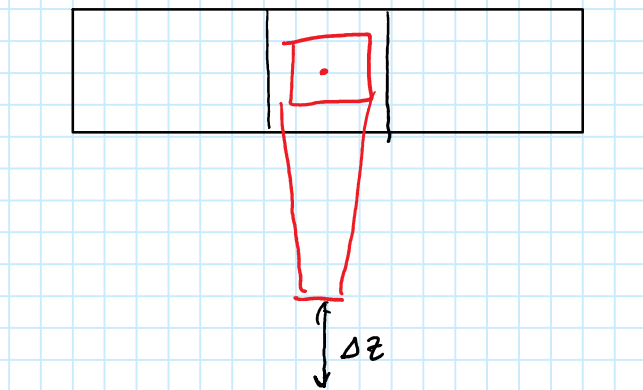


Step Development Sketches (for middle leg)

Dienstag, 28. Juni 2022

16:23

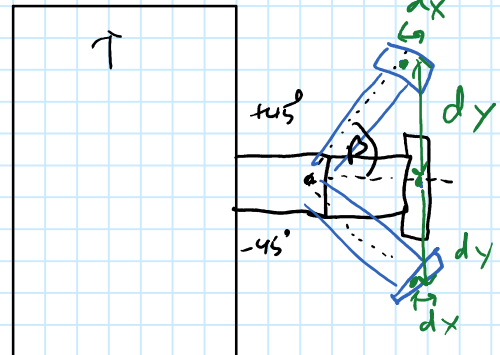
Side View:



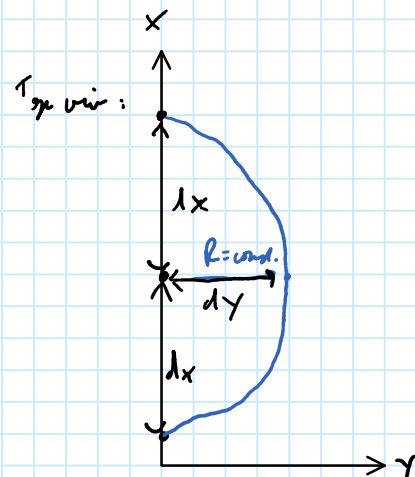
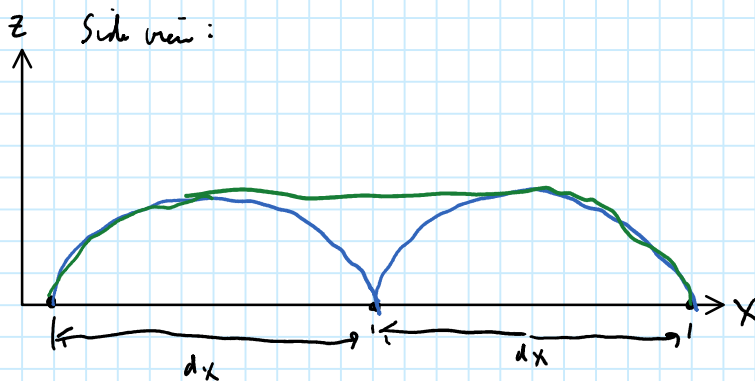
required information:

Top view: $\beta_{max, \pm}, \beta_0, dy, dx$

if $(abs(Y_{unest} - Y) > dy) \rightarrow$ next step



Step movement path:



Movement profiles for legs:

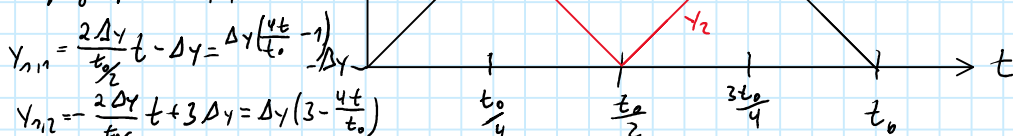
x: steps constant

y: linear model

z: xi-model

leg group 1: 1, 4, 5

leg group 2: 2, 3, 6



$$y_{1,1} = \frac{2\Delta y}{t_0} t - \Delta y = \Delta y \left(\frac{4t}{t_0} - 1 \right)$$

$$y_{1,2} = -\frac{2\Delta y}{t_0} t + 3\Delta y = \Delta y \left(3 - \frac{4t}{t_0} \right)$$

$$y_{2,1} = -\frac{2\Delta y}{t_0} t + \Delta y; y_{2,2} = \frac{2\Delta y}{t_0} t - 3\Delta y$$

$$= \Delta y \left(1 - \frac{4t}{t_0} \right); = \Delta y \left(\frac{4t}{t_0} - 3 \right)$$

$$z_{1,1} = \Delta z \cdot \sin \left(\frac{2\pi}{t_0} \cdot t \right) \quad z_{1,2} = 0$$

$$z_{2,1} = 0 \quad z_{2,2} = \Delta z \cdot \sin \left(\frac{2\pi}{t_0} \cdot (t - \frac{t_0}{2}) \right)$$