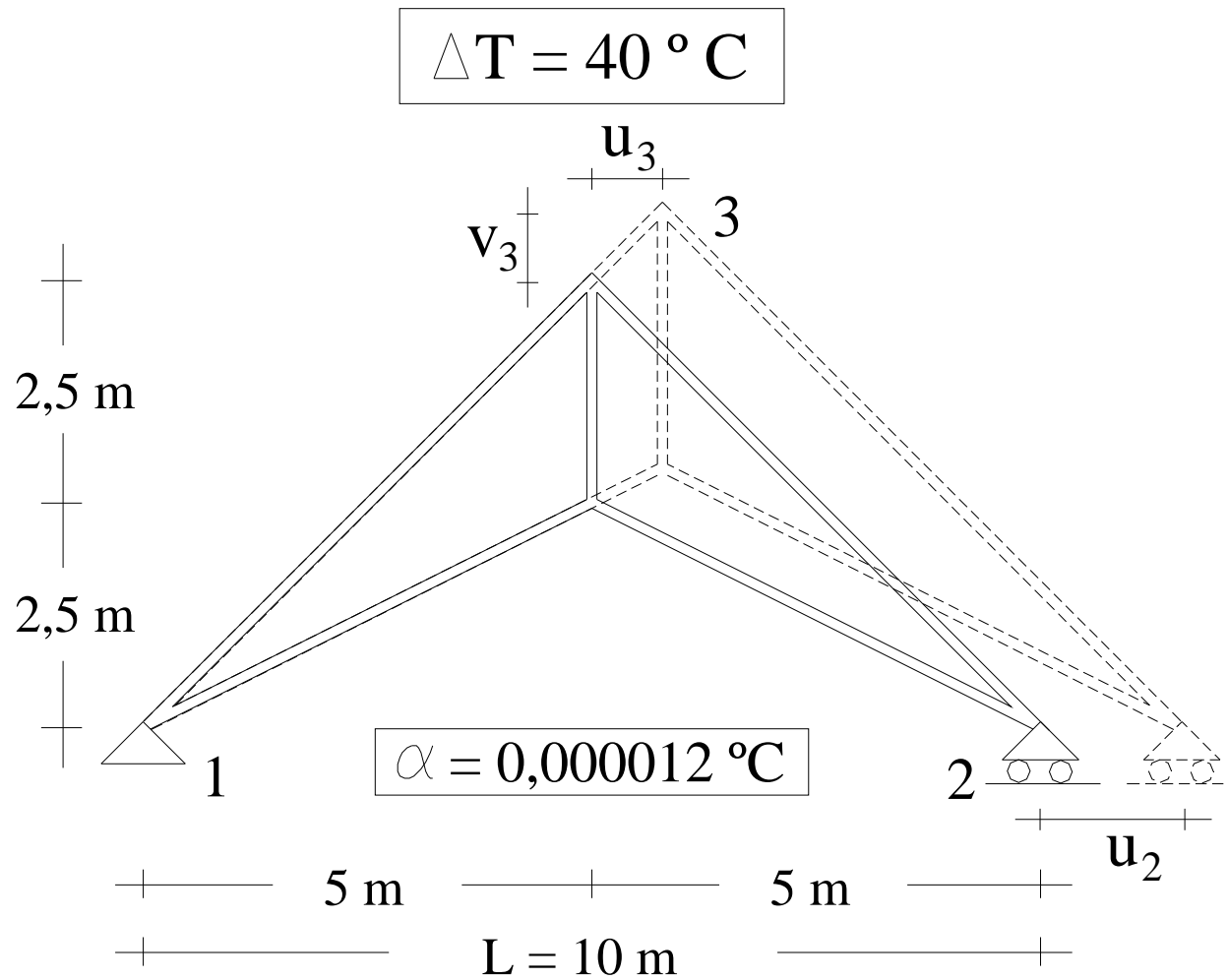
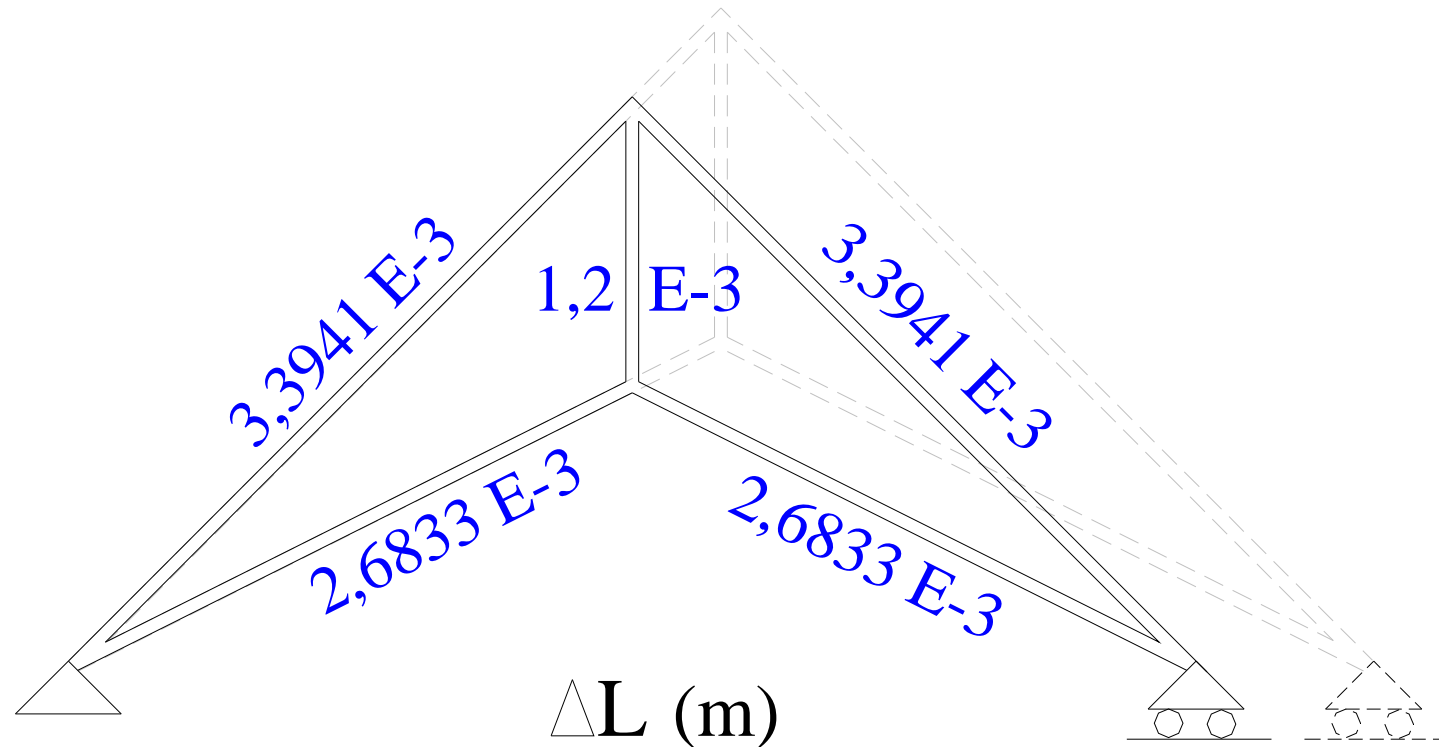


deflections by temperature changes



temperature change deformations

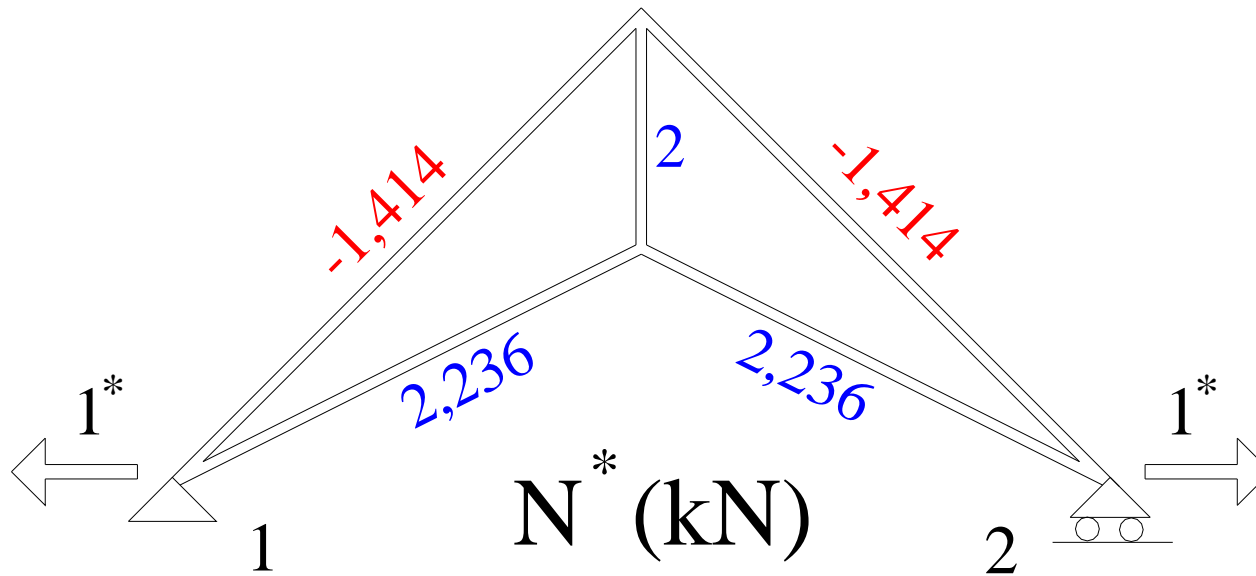


$$\Delta L = \alpha L \Delta T$$

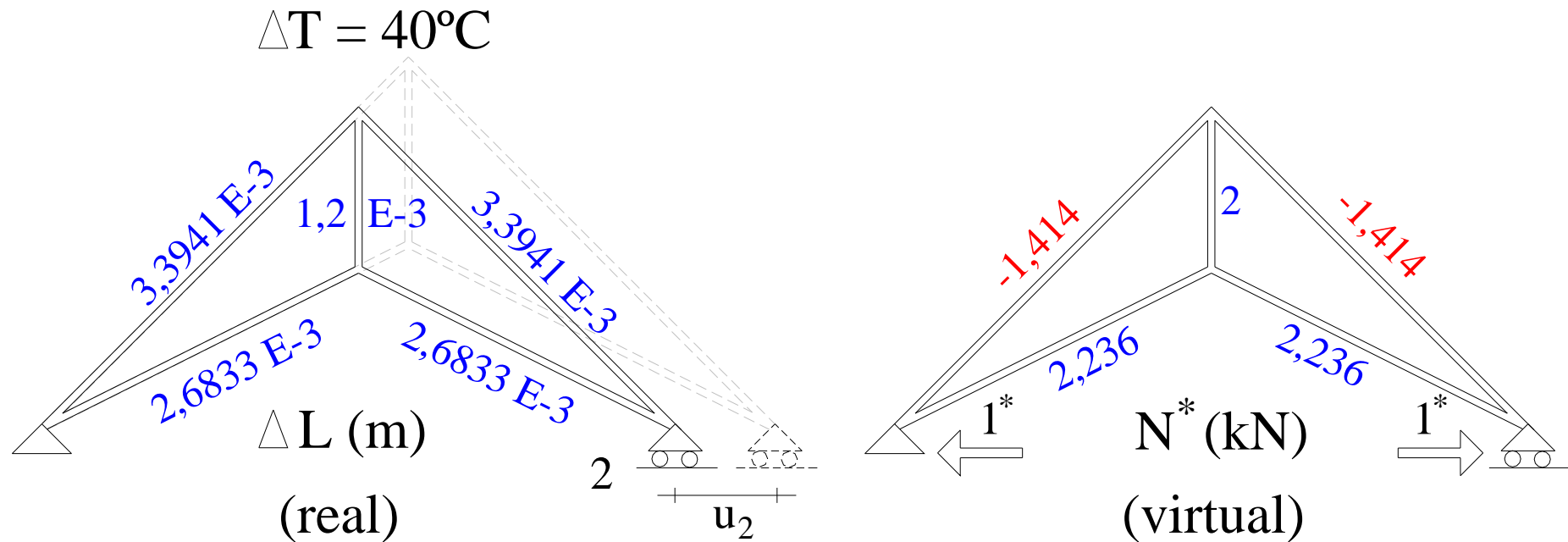
$$\alpha = 0,000012 \text{ } ^\circ\text{C}^{-1}$$

$$\Delta T = 40 \text{ } ^\circ\text{C}$$

determination of u_2 : “virtual” structure



determination of u_2 by temperature change



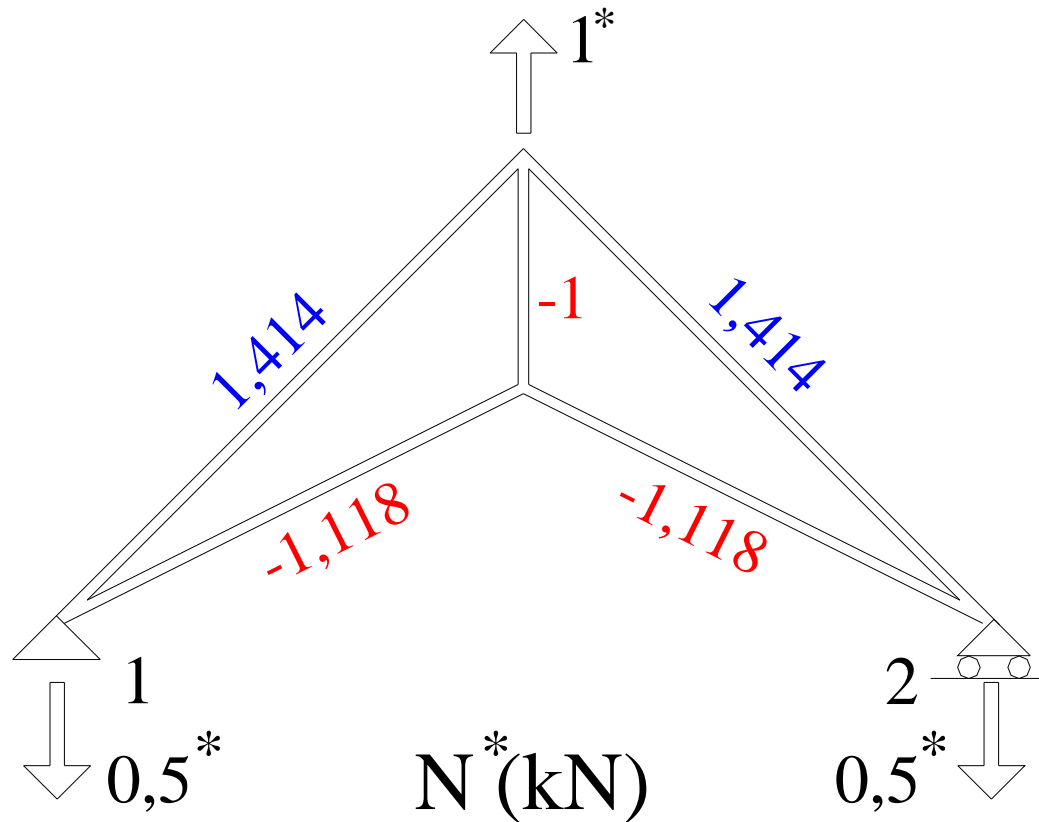
$$1^* \cdot u_2 = \sum W_{ext} = \sum W_{int} = \sum_b (\Delta L_b \cdot N_b^*)$$

$$1^* \cdot u_2 = 2 (0,0033941 \cdot -1,414) + 2 (0,0026833 \cdot 2,236) + 0,00122 \cdot 2$$

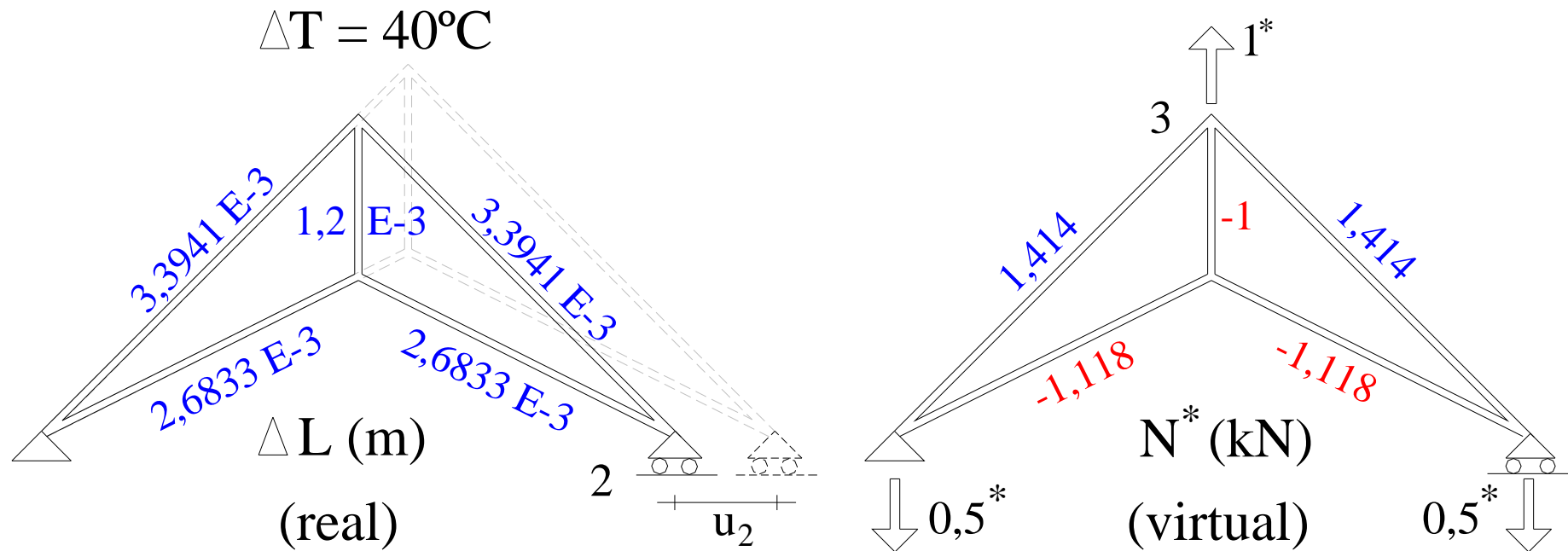
$$1^* \cdot u_2 = 0,0096 \text{ kN m}$$

$$u_2 = 0,0096 \text{ m} = 9,6 \text{ mm}$$

determination of v_3 : “virtual” structure



determination of v_3 by temperature change



$$1^* \cdot v_3 = \sum W_{ext} = \sum W_{int} = \sum_b (\Delta L_b \cdot N_b^*)$$

$$1^* \cdot v_3 = 2 (0,0033941 \cdot 1,414) + 2 (0,0026833 \cdot -1,118) + 0,0012 \cdot -1$$

$$1^* \cdot v_3 = 0,0048 \text{ kN m}$$

$$v_3 = 0,0048 \text{ m} = 4,8 \text{ mm}$$

