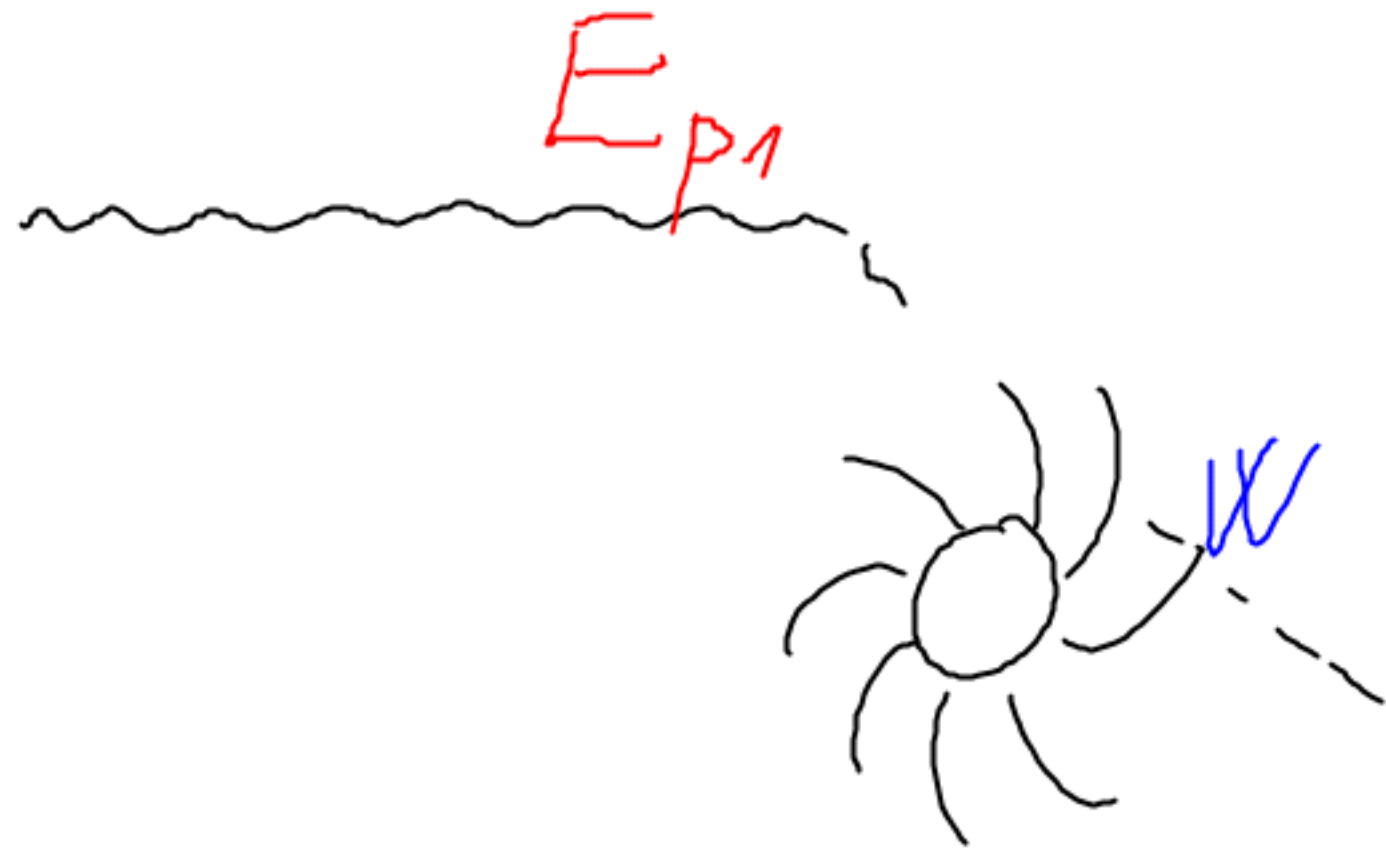


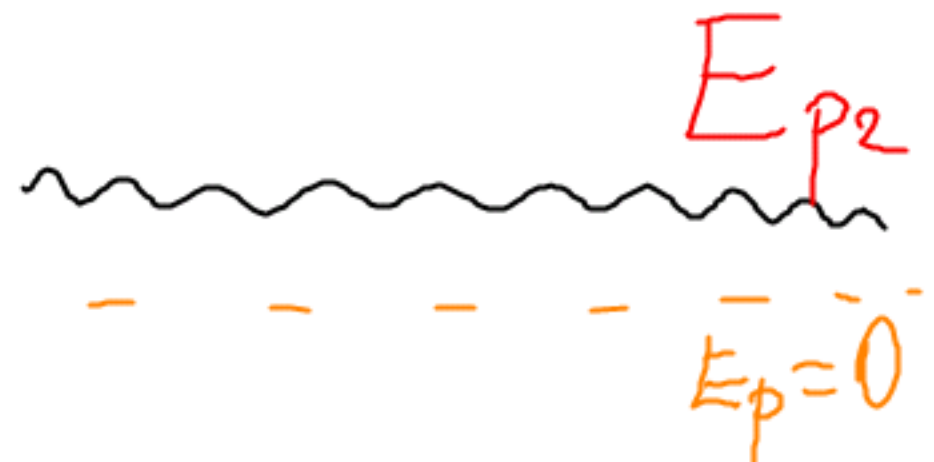
PRA'CE, ENERGIE, TEPLA

prá'ce - DĚS
energie - STAV



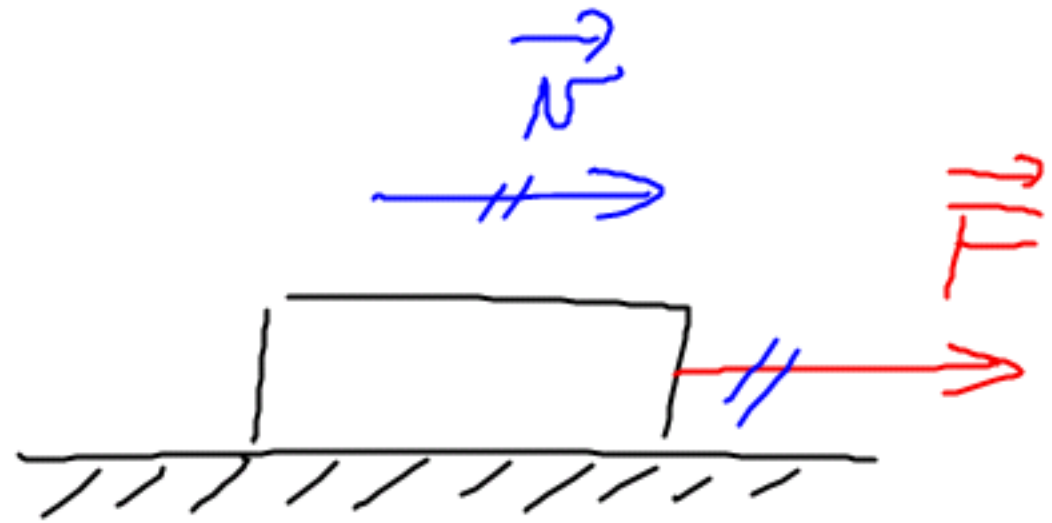
$$E_{p1} > E_{p2}$$
$$W = E_{p1} - E_{p2}$$

$$W = \Delta E_p$$

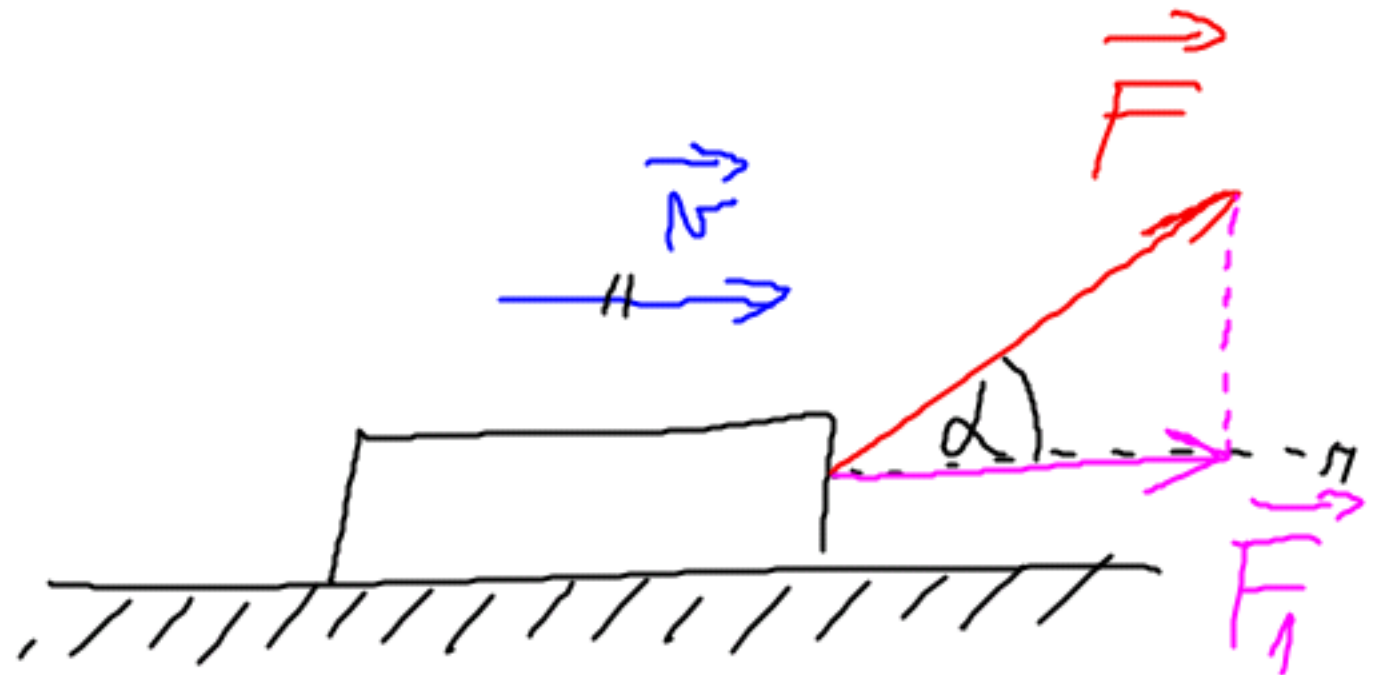


Mechanical work

- $W = F \cdot s$



- $W = F_{\parallel} \cdot s =$
 $= F \cdot s \cdot \cos \alpha$



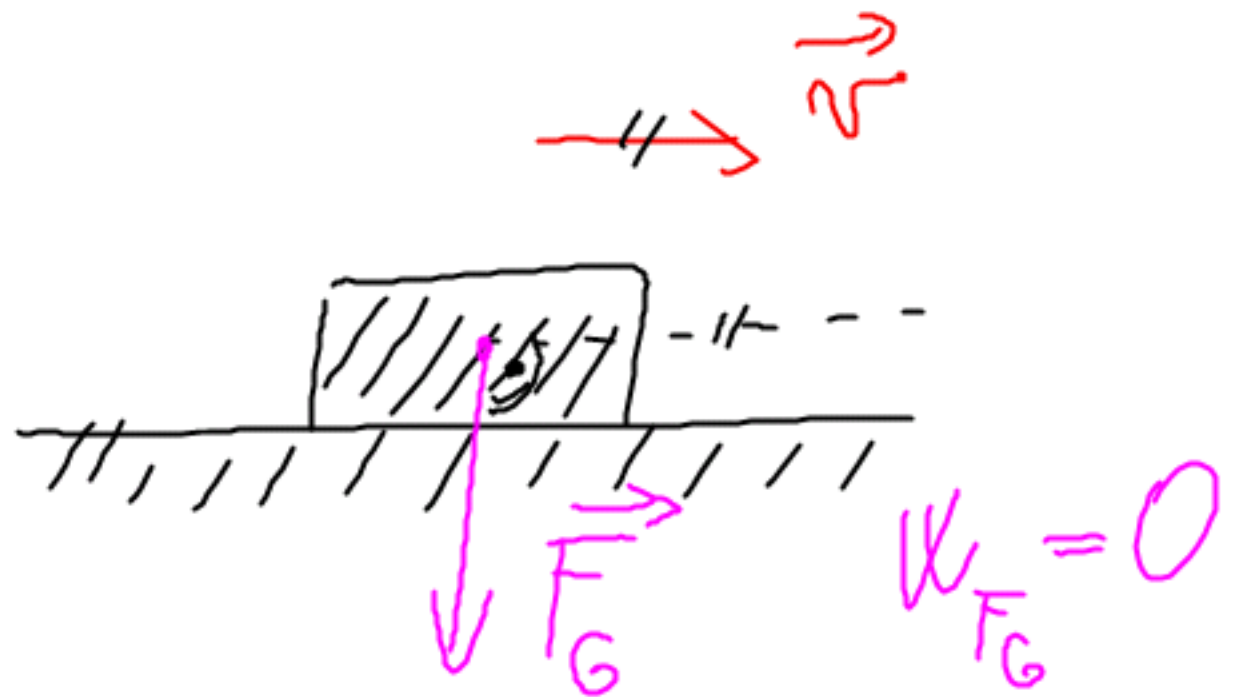
$$W = F \cdot s \cdot \cos \alpha$$

kdy se práce nekoná? (tj. kdy je $W = 0$?)

• $F = 0$ $\xrightarrow{\text{1. N z}}$ nulový přímocný pohyb

• $s = 0 \Rightarrow$ klid

• $\cos \alpha = 0$
 $\alpha = 90^\circ$



Energie

- $E_{\text{potenciál'ny'}}$

- tíkrová' $E_p = mgh$

- pružimost' (pružina + těleso)

- $E_{\text{kinetická'}}$

- posuvné'ho pohybu $E_{kp} = \frac{1}{2} \boxed{m} \boxed{v}^2$

- rotačím'ho pohybu $E_{kr} = \frac{1}{2} \boxed{J} \boxed{\omega}^2$

○ - charakteristický pohyb

□ - " celkový pohyb "

Za'kon zachova'm'

a) mechanické energie

$$E_k + E_p = \text{konst}$$

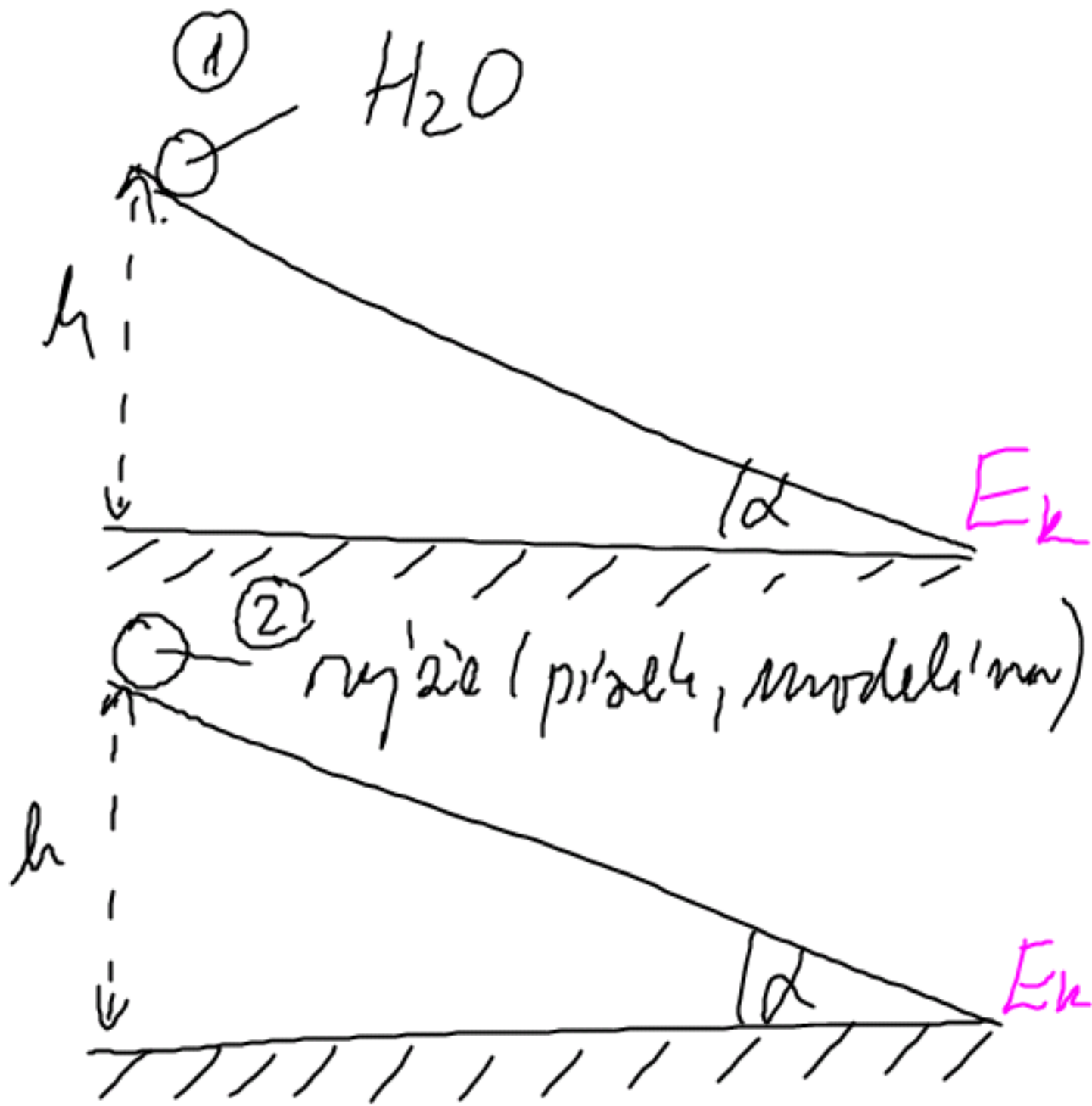
($F_{\text{odpore}} = 0$)

("hopík")

b) energie

$$E_{\text{celková}} = \text{konst}$$

("míčkové s pili-
manni")



$$E_p = E_k$$

① $\underline{E_p} = E_{k \text{ posuw}}$

② $\underline{E_p} = E_{k \text{ posuw}} + E_{k \text{ rotacja}}$



$$E_{k \text{ posuw}} \text{ ①} > E_{k \text{ posuw}} \text{ ②}$$

$$v_1 > v_2$$

Teplo

přenos energie (tok energie)