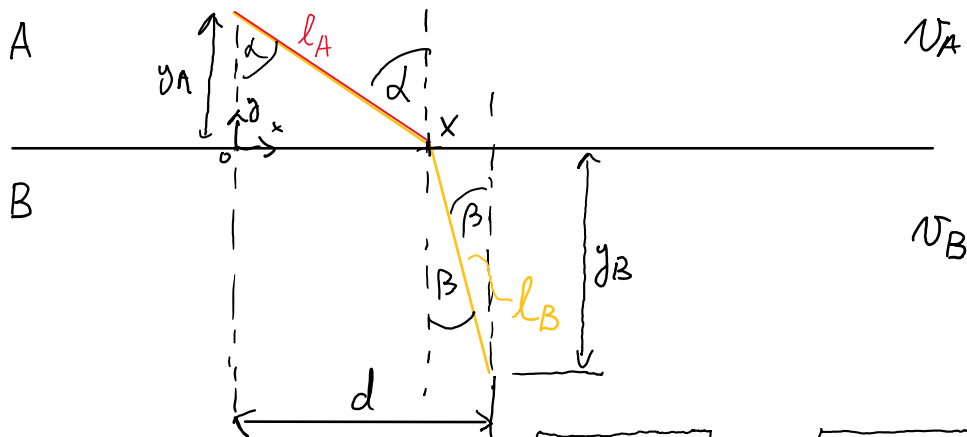


10. Zákon lomu

Wednesday, January 15, 2025

14:41



$$t_{AB} = \frac{l_A}{v_A} + \frac{l_B}{v_B} = \frac{\sqrt{x^2 + y_A^2}}{v_A} + \frac{\sqrt{y_B^2 + (d-x)^2}}{v_B}$$

$$l_A = \sqrt{x^2 + y_A^2}$$

hledáme minimum $t_{AB}(x)$

$$l_B = \sqrt{y_B^2 + (d-x)^2}$$

$$t'_{AB} = \frac{x}{v_A \sqrt{x^2 + y_A^2}} - \frac{d-x}{v_B \sqrt{y_B^2 + (d-x)^2}} = 0$$

$$\frac{\overset{\text{sin} \alpha}{x}}{v_A l_A} = \frac{\overset{\text{sin} \beta}{d-x}}{v_B l_B}$$

$$\frac{\sin \alpha}{v_A} = \frac{\sin \beta}{v_B}$$

$$\frac{v_A}{v_B} = \frac{\sin \alpha}{\sin \beta} \quad \text{Snellův zákon lomu}$$