

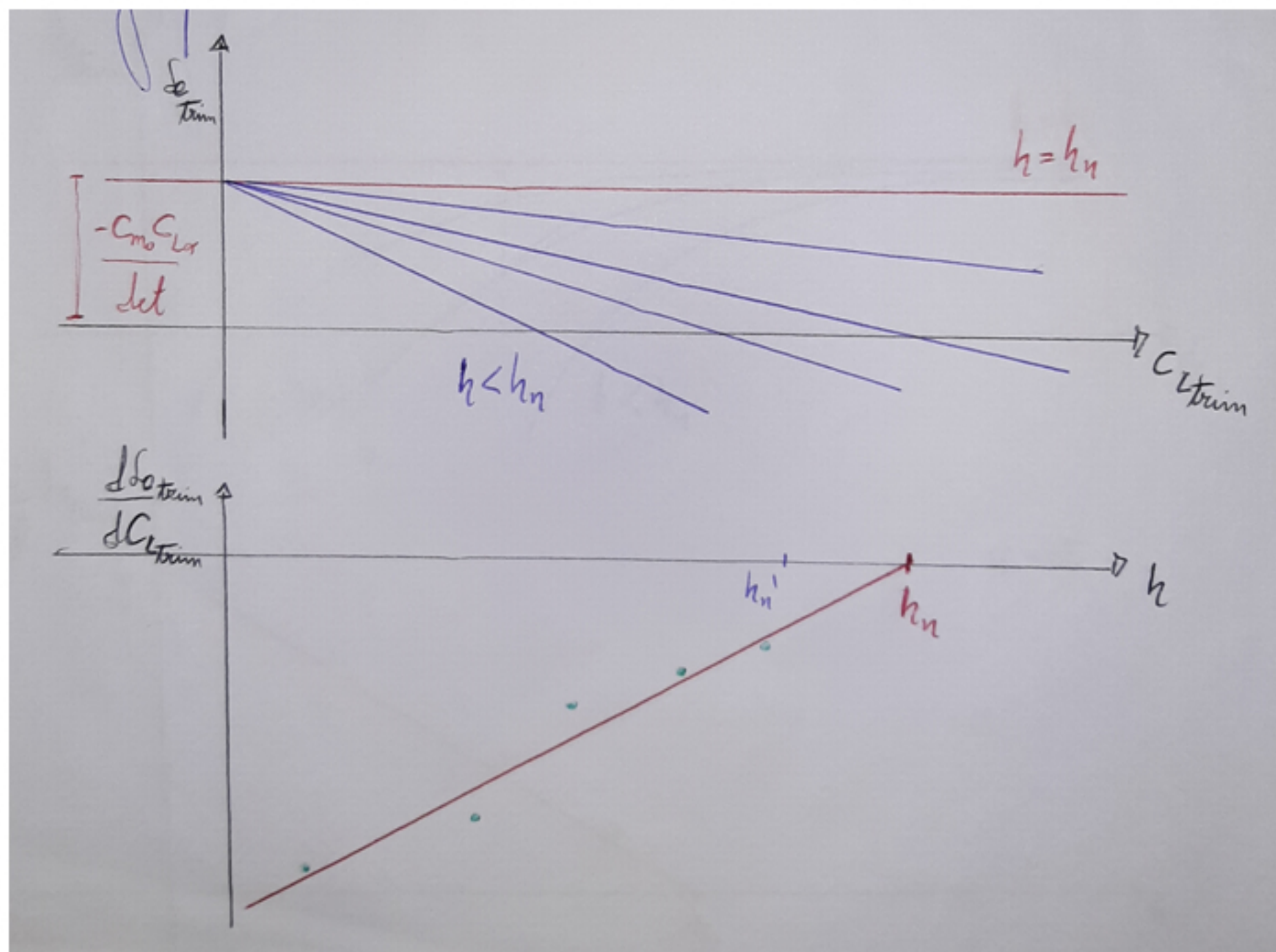
Determinação de h_n e h_s através da $I_{e_{trim}}$

Temos

$$I_{e_{trim}} = - \frac{C_{m0} C_{L\alpha} + C_{m\alpha} C_{L_{trim}}}{det}$$

Derivando em relação a $C_{L_{trim}}$

$$\frac{d}{dC_{L_{trim}}} I_{e_{trim}} = - \frac{C_{m\alpha}}{det} = - \frac{C_{L\alpha}}{det} (h - h_n)$$



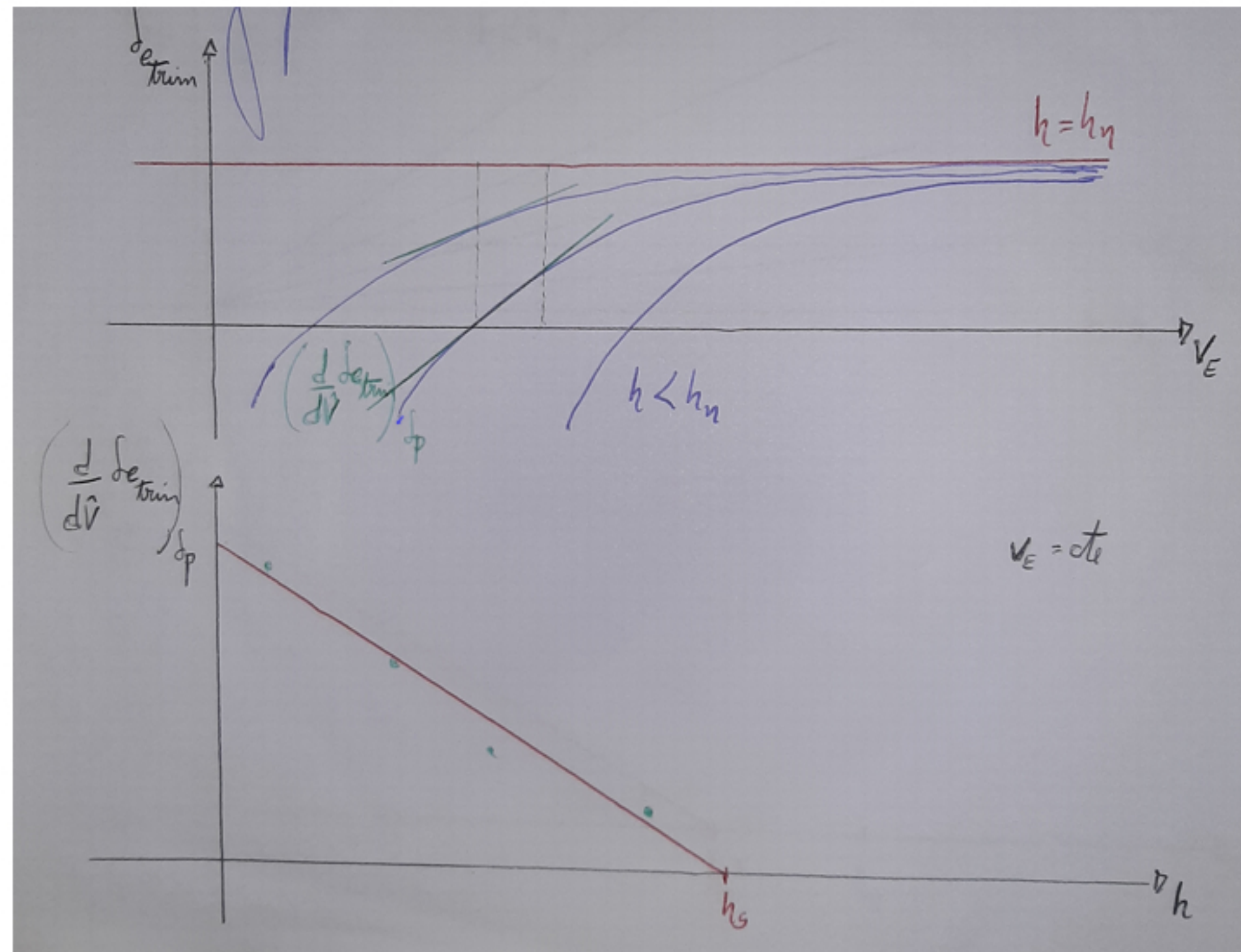
Novamente

$$L_{\text{trm}} = \frac{-C_{m0} C_{L\alpha} + C_{m\alpha} C_{L_{\text{trm}}}}{\det}$$

$$C_{L_{\text{trm}}} = \frac{W}{\frac{1}{2} \rho V_{\infty}^2 S}$$

Derivando L_{trm} em relação a \hat{V} para $\delta_p = ct_1$

$$\left(\frac{d}{d\hat{V}} L_{\text{trm}} \right)_{\delta_p} = \frac{C_{L\alpha}}{\det} (C_{L_V} + 2C_{L_e}) (h - h_s)$$



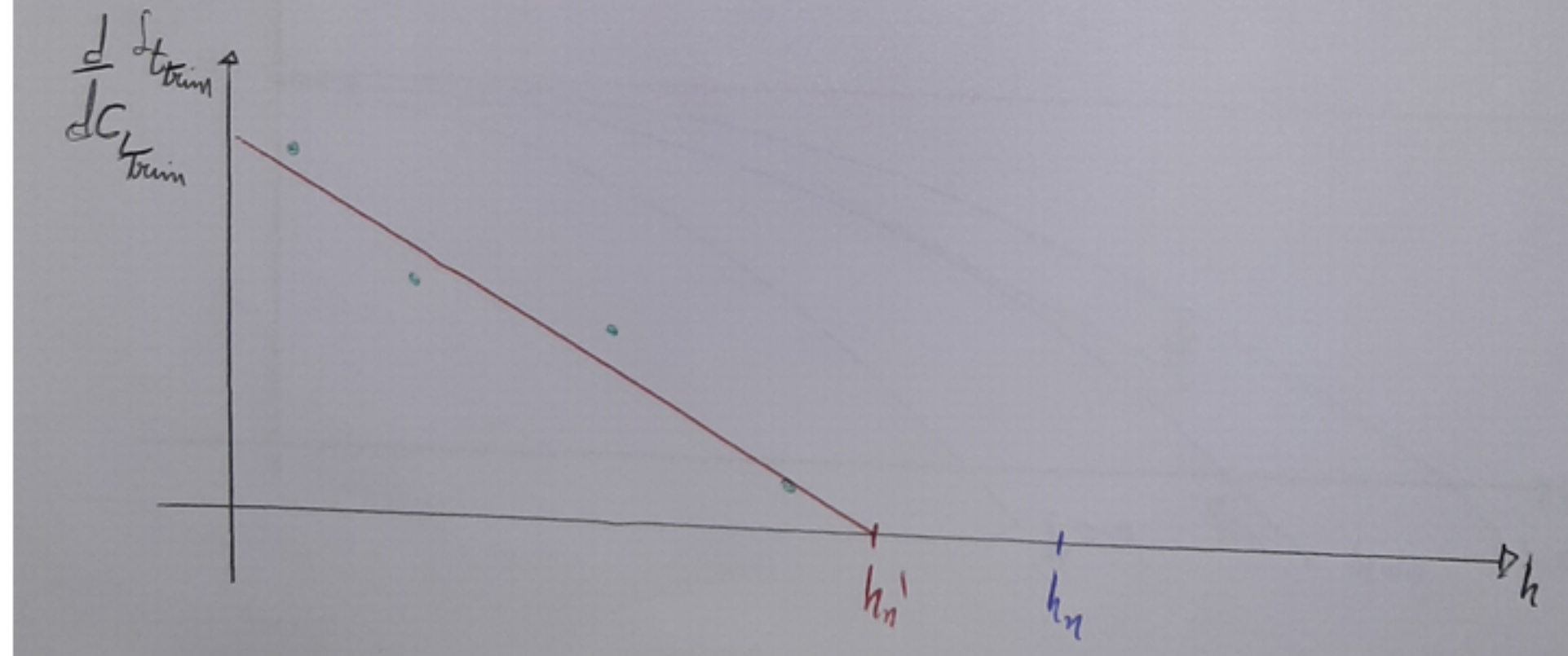
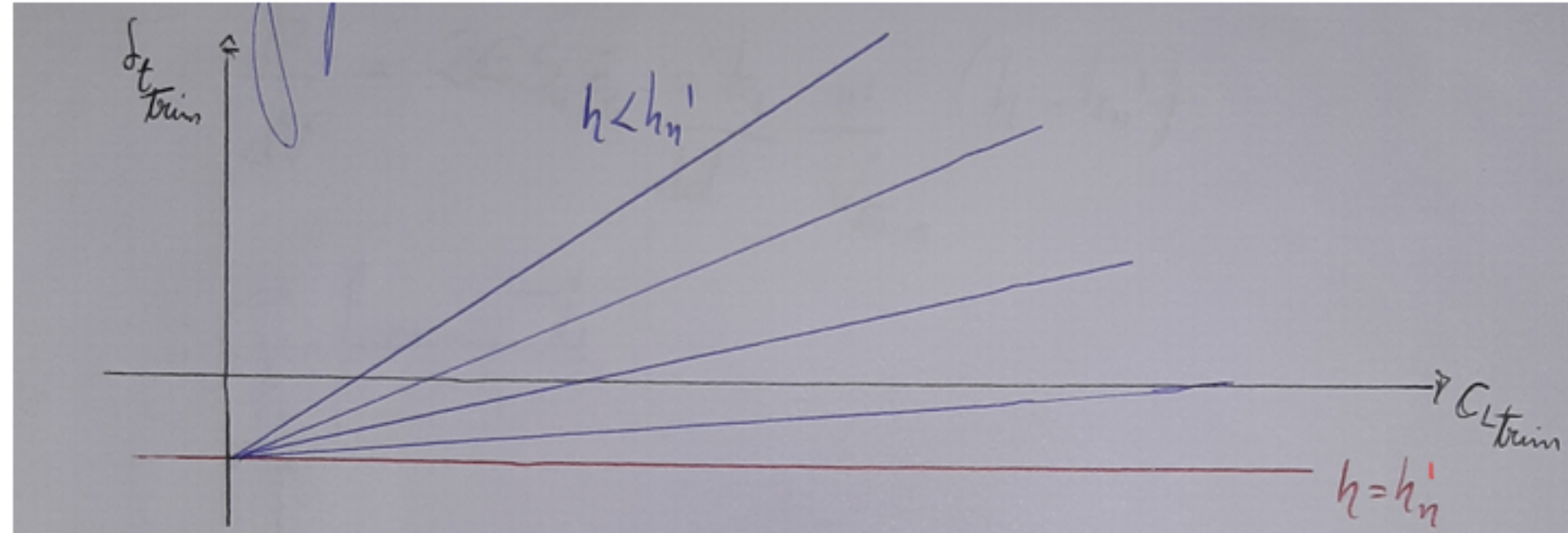
Determinação de h_n' através de $I_{t_{trim}}$

Temos

$$I_{t_{trim}} = -\frac{1}{b_3} \left[C_{he_0} + \frac{C_{m_2}}{\det} (C_{he_0} C_{L_{\delta e}} - b_2 C_{L_{\alpha}} - \frac{a' b_2}{\det} (h - h_n') C_{z_{trim}}) \right]$$

Derivando em relação a $C_{t_{trim}}$

$$\left(\frac{d}{dC_{t_{trim}}} I_{t_{trim}} \right) = \frac{b_2}{b_3} \frac{a'}{\det} (h - h_n')$$



Determinação de h_n' através de P

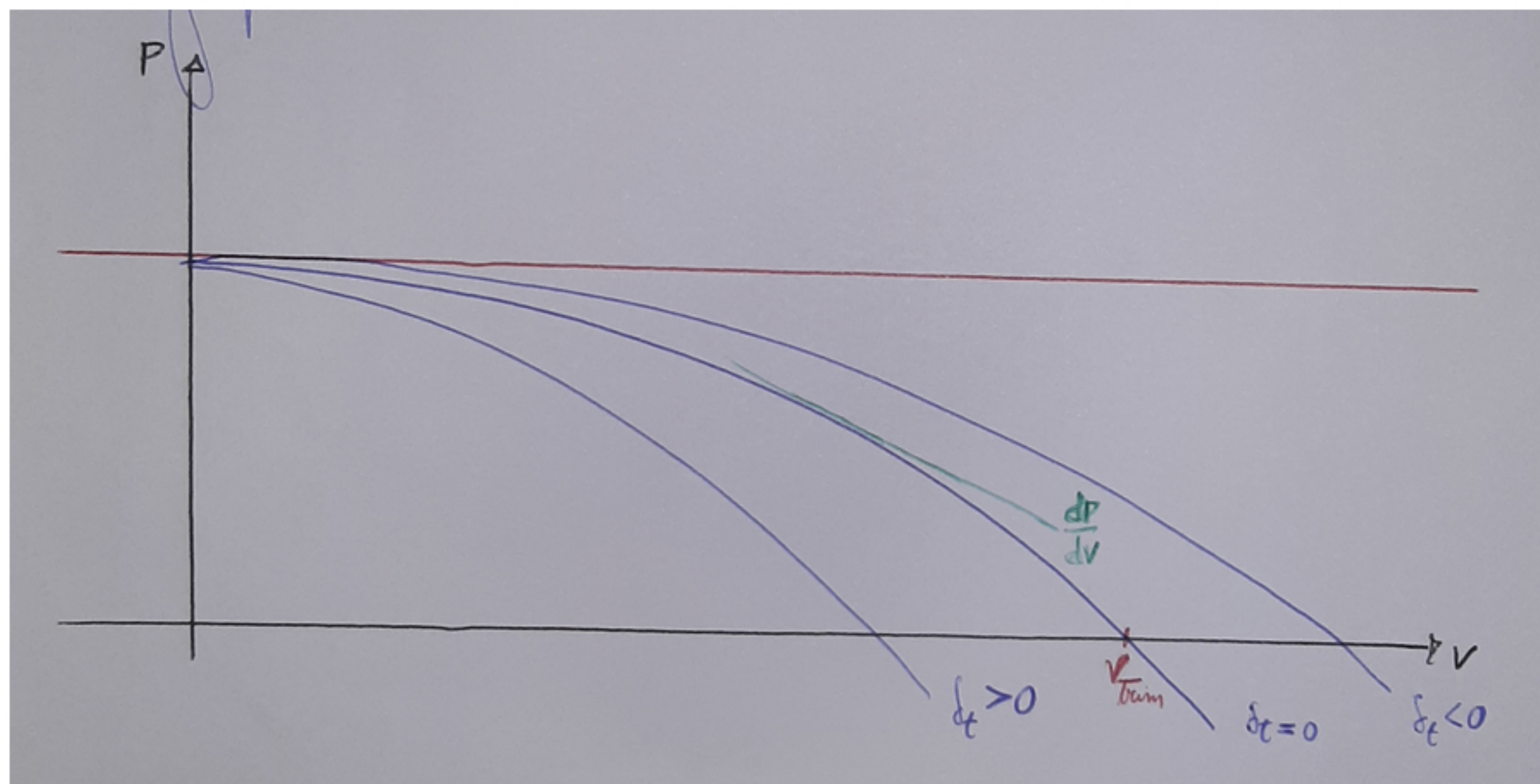
$$P = A + B \frac{L}{2} V^2$$

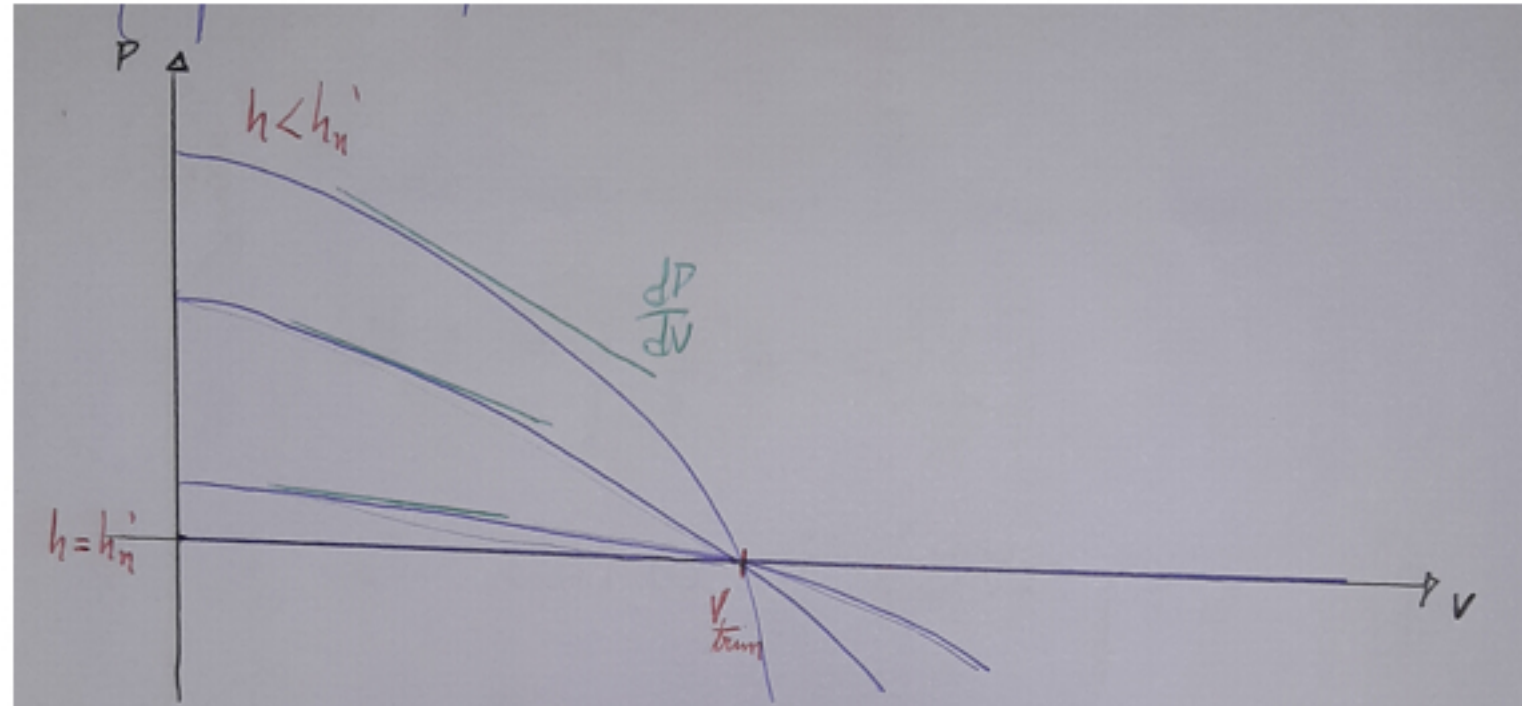
$$A = -G S_e \bar{c}_e w \frac{a' b_2}{dt} (h - h_n')$$

$$B = G S_e \bar{c}_e \left[b_3 d_T + C_{heo} + \frac{C_{mo}}{dt} (C_{he\alpha} G_{lfe} - b_2 C_{L\alpha}) \right]$$

Derivando P em relação a V

$$\frac{dP}{dV} = 2G S_e \bar{c}_e \frac{a' b_2}{dt} \frac{w}{V_{tim}} (h - h_n')$$





Assim

