

$$t^2 \frac{gd^2}{2v_0^2} - td + h + \frac{gd^2}{2v_0^2} = 0$$

$$t \equiv tg\alpha \quad \alpha = \frac{gd^2}{2v_0^2}$$

$$\alpha t^2 - td + (h + \alpha) = 0$$

$$t = \frac{d \pm \sqrt{d^2 - 4\alpha(h + \alpha)}}{2\alpha}$$

Ordini di grandezza:

$$d \approx 200 \text{ m}$$

$$h \approx 0.3 \text{ m}$$

$$v_0 \approx 100 \text{ m/s}$$

$$\Rightarrow \alpha \approx \frac{10 (200)^2}{2 (100)^2}$$

$$= 5 \frac{4 \times 10^4}{10^4} \approx 20$$

$$tg\alpha \approx 0.10 \Rightarrow \alpha \approx 5.8^\circ$$