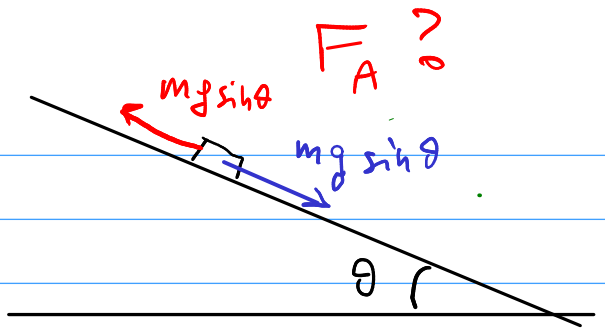


$\vartheta \ll \vartheta_{max}$

sta fermo!

$\vartheta_1 \rightarrow F_A = -mg\sin\vartheta_1$

$\vartheta_2 \rightarrow F_A = -mg\sin\vartheta_2$

$\vartheta_M \rightarrow F_A^{(M)} = -mg\sin\vartheta_M = -\mu_s mg\cos\vartheta_M$

F_N

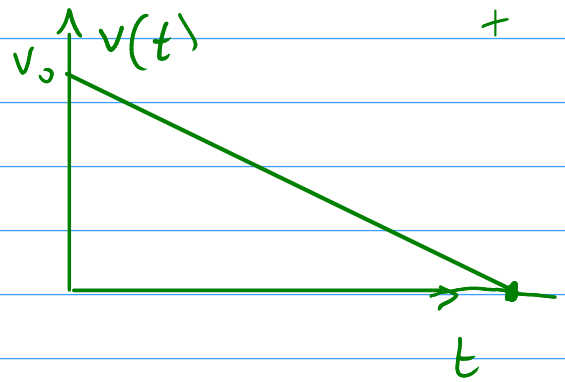
$$\mu_s = \frac{\sin\vartheta_M}{\cos\vartheta_M} = \tan\vartheta_M \quad \Leftarrow \quad \sin\vartheta_M = \mu_s \cdot \cos\vartheta_M$$

$\vartheta > \vartheta_M^{(statico)} \rightarrow F = mg\sin\vartheta - \mu_d mg\cos\vartheta$

$a = F/m = g\sin\vartheta - \mu_d g\cos\vartheta$

$F = -mg\cdot\mu_d$

$a = F/m = -\mu_d \cdot g$



$V = V_0 + a\cdot t$

$= V_0 - \mu_d \cdot g \cdot t$

$t_{Arresto} \rightarrow v = 0$

→ spazio finito!

⇒ moto unif. acc. (a<0) (decelerato)

$[\beta]$: $N/(m/s)$

$\vec{F} = -\beta \vec{v}$ → viscosità

1) $v_0 \longrightarrow v(t)$ [oltre: $|F| \propto v^2$]

2) Forza costante + resistenza mezzo

$F = -mg + \beta \cdot v$

$\downarrow \downarrow \vec{v}$

a) Fermo: $F = -mg \rightarrow a = g$

b) si muove $|v| \uparrow \rightarrow |a| \downarrow$

c) $v_L \rightarrow F = 0$

$-mg + \beta v = 0$

$v_L = \frac{mg}{\beta}$ → $\propto m$

→ $\propto 1/\beta$

→ $\propto g$

"aerodinamica"

⇒ proiettile, granata!

→ no aria; $h = 500$ m;

→ v al suolo?