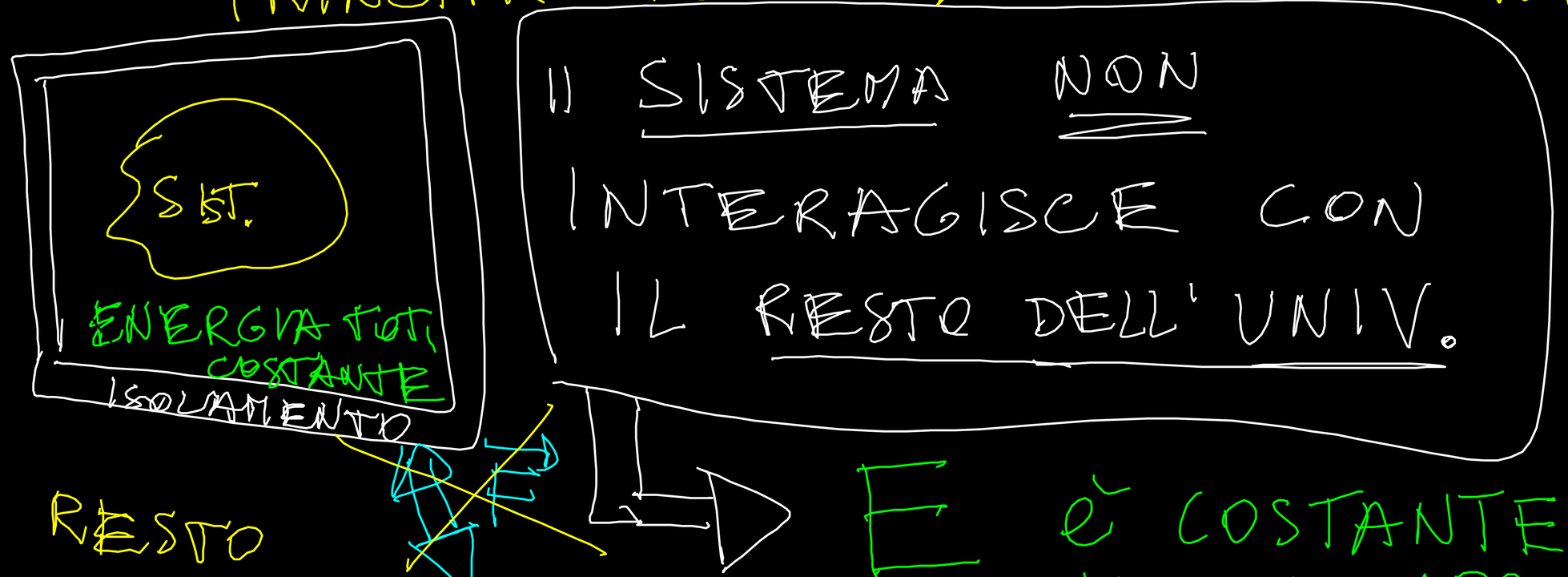
TEOREMA DELL'ENERGIA CINETICA

$$\mathcal{L}_{TOT} = \Delta K$$

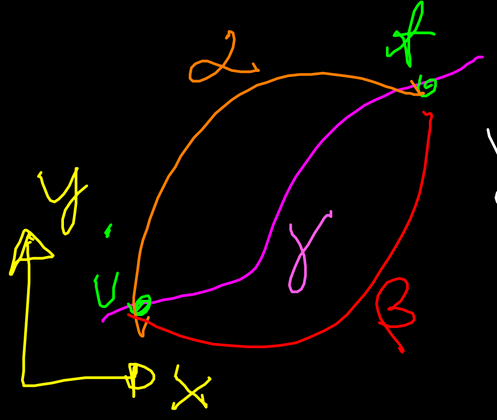
(SIST. DI RIF. INERZIALE)

PRINCIPIO DI CONSERV. DELL'ENERGIA



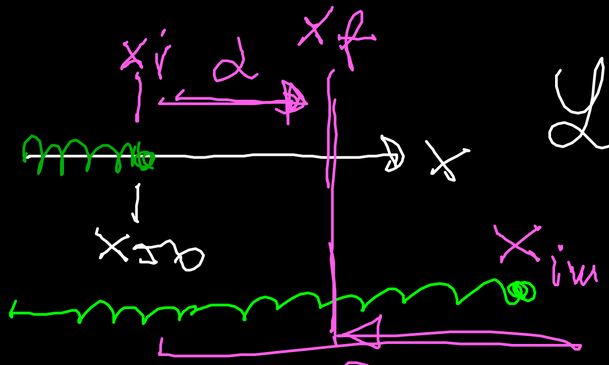
FORZE CONSERVATIVE

FORZA PESO



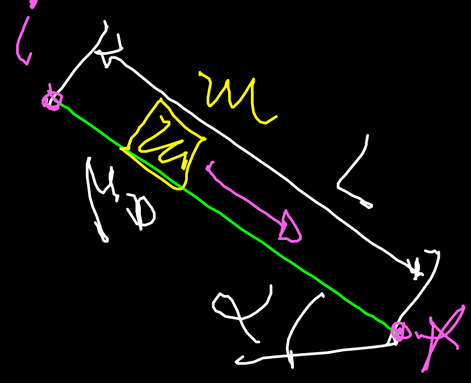
$$\mathcal{L}_{peso} = -mg(y_f - y_i) \qquad \forall\, \alpha, \beta, \gamma \dots$$

FORZA ELAST.



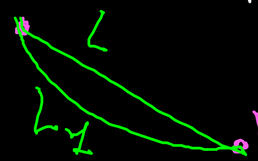
$$\mathcal{L}_{Fel} = -\frac{K}{2}\left(x_f^2 - x_i^2\right) \qquad \forall\, \alpha, \beta$$

FORZA DI ATTRITO



FORZE NON CONS.

$$\mathcal{L}_{att} = -(\mu_D\, m\, g \cos\alpha)\cdot L$$

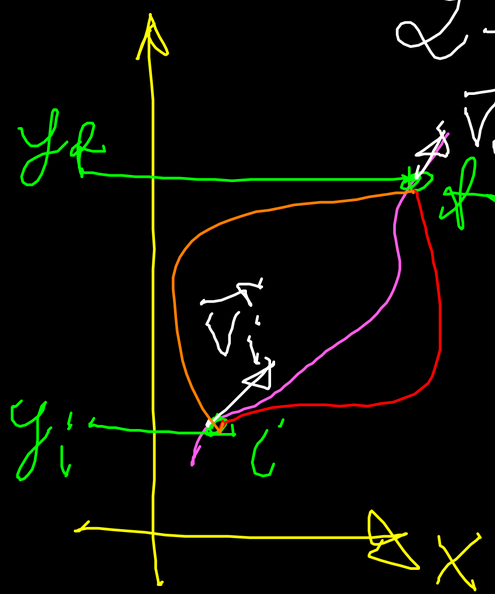


$$\mathcal{L}_{L} \neq \mathcal{L}_{L_1}$$

[NOTES] — SOLO FORZE CONS.

ES. PESO

$$L_{TOT} = \Delta K$$



$$L_{PESO} = -mg(y_f - y_i) = \frac{m}{2}(v_f^2 - v_i^2)$$

$$E = \underbrace{\frac{m}{2}v_f^2}_{K} + \underbrace{mgy_f}_{U} = \frac{m}{2}v_i^2 + mgy_i$$

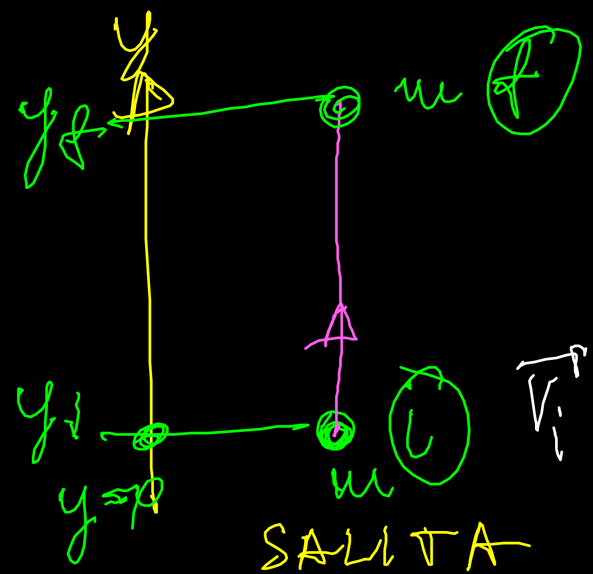
(f) (i)

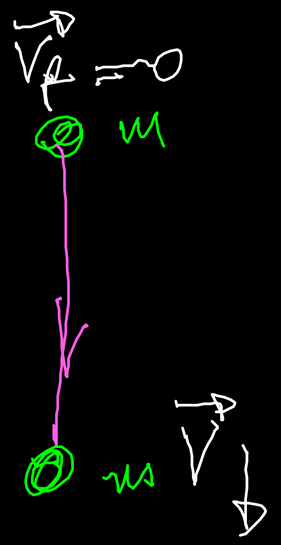
ENERGIA MECCANICA

$$E = K + U$$

$$E_f = E_i$$

$$K_f + U_f = K_i + U_i$$





$$E = K + U = \text{cost.}$$

$$i \to f \qquad E_f = E_i$$

$$K_f + U_f = K_i + U_i$$

K	U
y_f	$\frac{1}{2}mv_f^2 + mgy_f$
	$=$
$y_i = 0$	$\frac{1}{2}mv_i^2 + mgy_i$
$v_i \neq 0$	
$\frac{1}{2}mv_i^2$	

$$U_f = \frac{1}{2}mv_i^2 + U_i$$

$$U_f - U_i = \frac{1}{2}mv_i^2$$