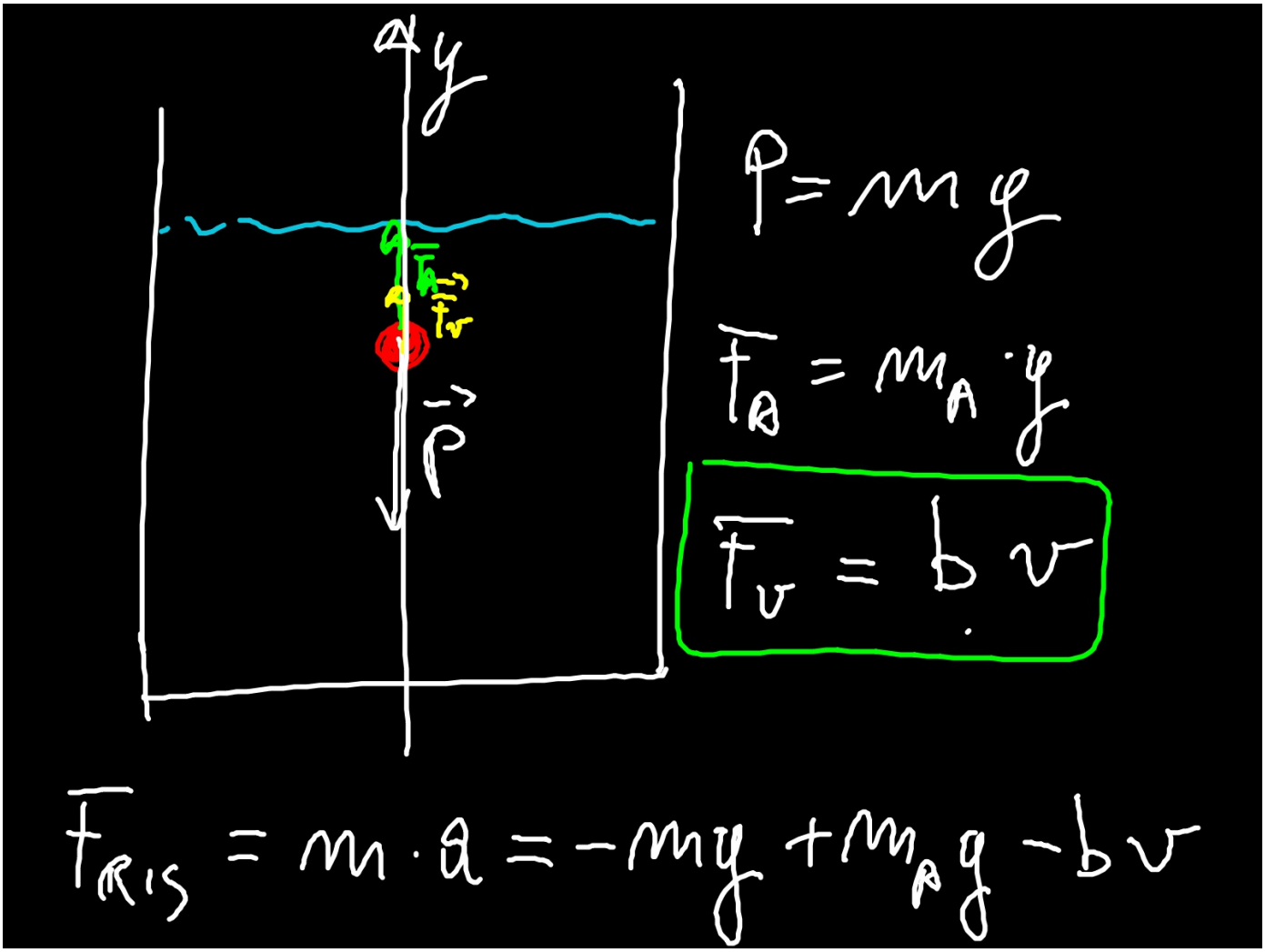
LABORATORIO

ANALISI DEL MOTO DI UN CORPO IN UN FLUIDO

(CADUTA DELLA PALLINA IN ACQUA)


y
$\vec{F}_A$
$\vec{F}_v$
$\vec{P}$
$P = mg$
$\vec{F}_A = m_A \cdot g$
$\vec{F}_v = b\,v$
$\vec{F}_{RIS} = m \cdot a = -mg + m_A g - bv$

$$a = -g + \frac{m_A}{m} g - \frac{b}{m} v$$

$$a = -\frac{m - m_A}{m} g - \frac{b}{m} v$$

$$a = D_t v = v'(t)$$

$$v'(t) = -\frac{\Delta m}{m} g - \frac{b}{m} v$$

SCOPO:

C_D MOTO (misurato)

CON LE PREVISIONI

DEL MODELLO

↓

CALCOLO IL COEFF.

↓

·) $m = 34\,g \rightarrow b = 0{,}11\ \frac{N \cdot s}{m}$

$m_n = 31\,g$

··) $\underline{m = 6\,g} = 0{,}006\,kg \qquad b \simeq 0.05\ \frac{N \cdot s}{m}$

$r_0 = 8\,mm = 8 \cdot 10^{-3}\,m$

$\rho_c = 10^3\,kg/m^3 \qquad V_0 = \frac{4}{3}\pi \cdot r_0^3$

$\rho_c \cdot V_0 \simeq 2\,g$