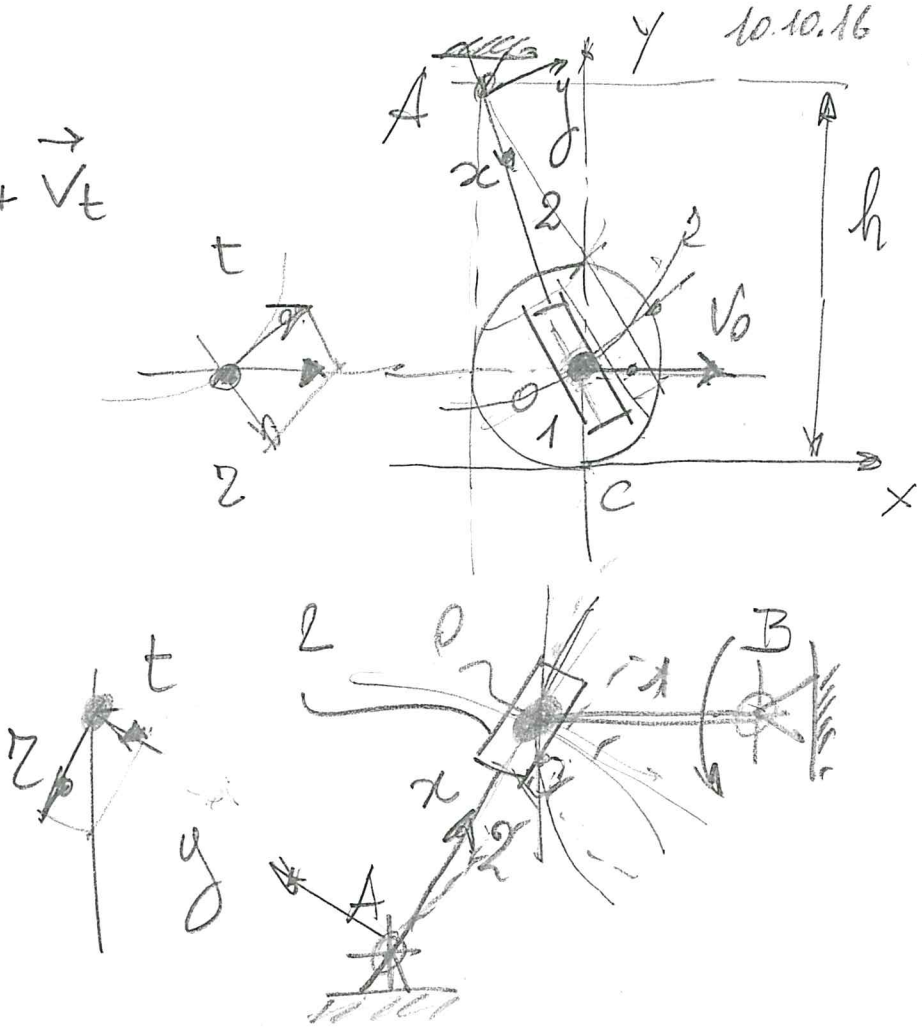
$$\vec{V_0} = \vec{V_r} + \vec{V_t}$$



$L = 200\ mm$

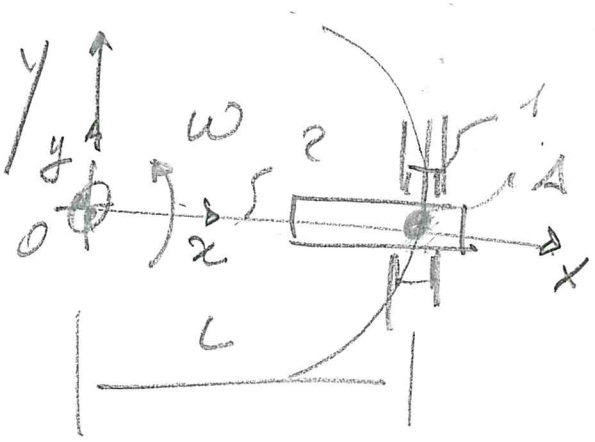
$\omega = 1\ rad/s$ (costr)

v_A v_{A2}

$\vartheta = 0°$

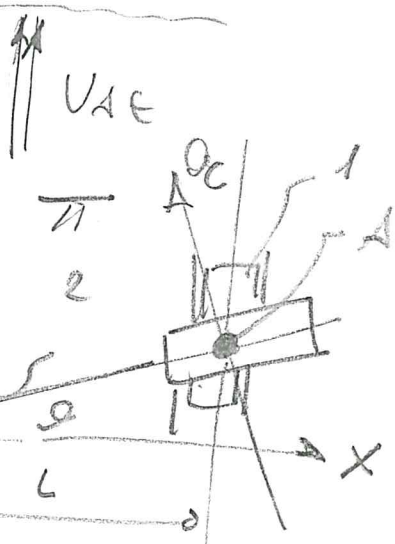
$\bar{v}_A = \bar{v}_{A2} + \bar{v}_{At}$

M	?	?	ωOA $0,2\ m/s$
D	//	$\perp OA$	$\perp OA$
V	?	?	↑



$v_{A2} = 0$

$v_A = v_{At}$

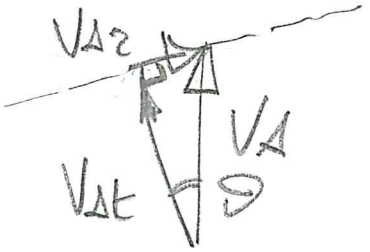


$\vartheta = 20°$

$\bar{v}_A = \bar{v}_{A2} + \bar{v}_{At}$

M	?	?	ωOA $0,21\ m/s$
D	//	$\perp OA$	$\perp OA$
V	?	?	↑

$OA = L/\cos\vartheta = 0,21\ m$



$v_{A2} = v_{At} \operatorname{tg}\vartheta$

$v_A = v_{At}/\cos\vartheta$

$v_{A2} = 0,076\ m/s$

$v_A = 0,22\ m/s$

$\omega = cost$

a_A, a_{Ar} ?

$\vartheta = 0°$

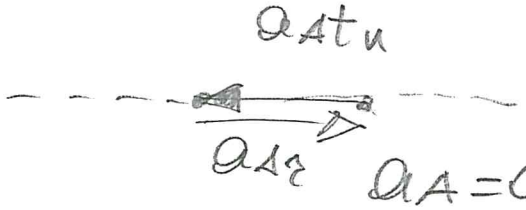
$\bar{a}_c = 2\bar{\omega} \wedge \bar{V}_r$

$$\bar{a}_A = \bar{a}_{Ar} + \bar{a}_{At)n} + \bar{a}_{At)t} + \bar{a}_c$$

	$\bar{a}_A$	$\bar{a}_{Ar}$	$\bar{a}_{At)n}$	$\bar{a}_{At)t}$	$\bar{a}_c$
M	?	?	$\omega^2 OA$ $0{,}2\ m/s^2$	$\dot{\omega} OA = 0$	0
D	$\parallel y$	$\parallel OA$	$\parallel OA$	$\perp OA$ A	A
V	?	?	$A \to 0$	? A	A

$\bar{a}_A = 0$

$\bar{a}_{Ar} = -\bar{a}_{At)u} = 0{,}2\,i$



$\vartheta = 20°$

$\bar{a}_c = 2\bar{\omega} \wedge \bar{V}_r$

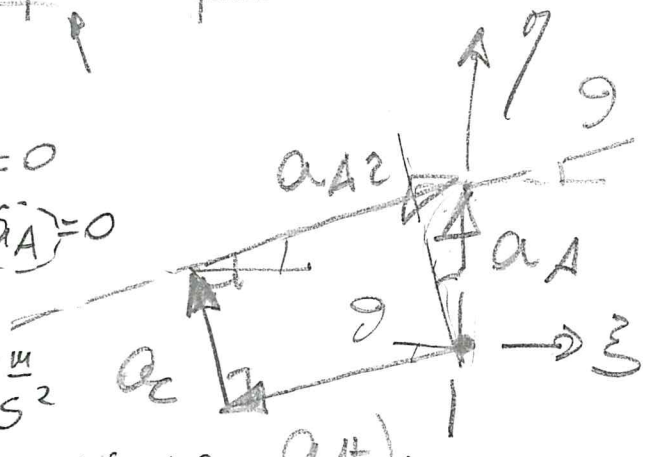
$$\bar{a}_A = \bar{a}_{Ar} + \bar{a}_{At)n} + \bar{a}_{At)t} + \bar{a}_c$$

	$\bar{a}_A$	$\bar{a}_{Ar}$	$\bar{a}_{At)n}$	$\bar{a}_{At)t}$	$\bar{a}_c$
M	?	?	$\omega^2 OA$ $0{,}21\ m/s^2$	$\dot{\omega} OA = 0$	$0{,}152\ m/s^2$
D	$\parallel y$	$\parallel OA$	$\parallel OA$	$\perp OA$ A	$\perp \frac{OA}{\in \pi}$
V	?	?	$A \to 0$	A	

$$\begin{cases} -a_{At)n}\cos\vartheta - a_c \sin\vartheta + a_{Ar}\cos\vartheta = 0 \\ -a_{At)n}\sin\vartheta + a_c\cos\vartheta + a_{Ar}\sin\vartheta - a_A = 0 \end{cases}$$

$$a_{Ar} = \frac{1}{\cos\vartheta}\left(a_{At)n}\cos\vartheta + a_c \sin\vartheta\right) = 0{,}26\ \frac{m}{s^2}$$

$$a_A = -a_{At)n}\sin\vartheta + a_c\cos\vartheta + a_{Ar}\sin\vartheta = 0{,}16\ m/s^2$$



3D GRADI DI LIBERTÀ CORPO RIGIDO 6

2D " " " 3

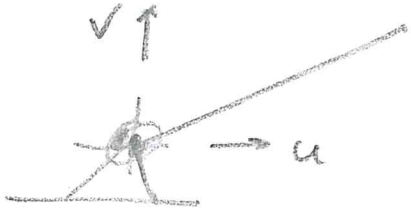
VINCOLI

INCASTRO

−3

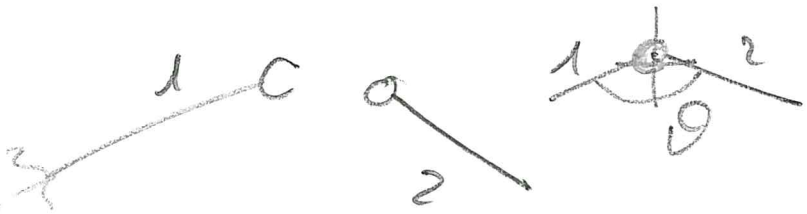
COPPIA ROTAZIONE

−2



COPPIA ROT. 2 CORPI

−2

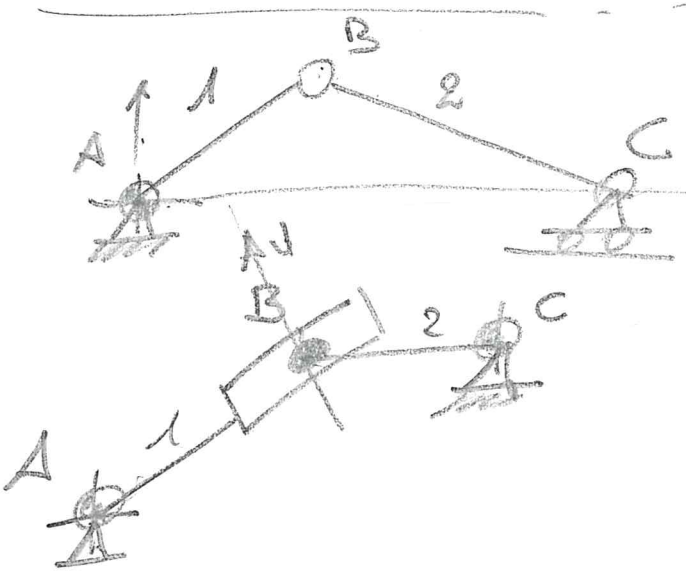


SLITTA-CARRELLO

−1

SLITTA

−1



GDL 2x3 6 GDL

$u_A = 0$ $v_A = 0$

$u_B = u_{B_2}$ $v_{B_1} = v_{B_2}$

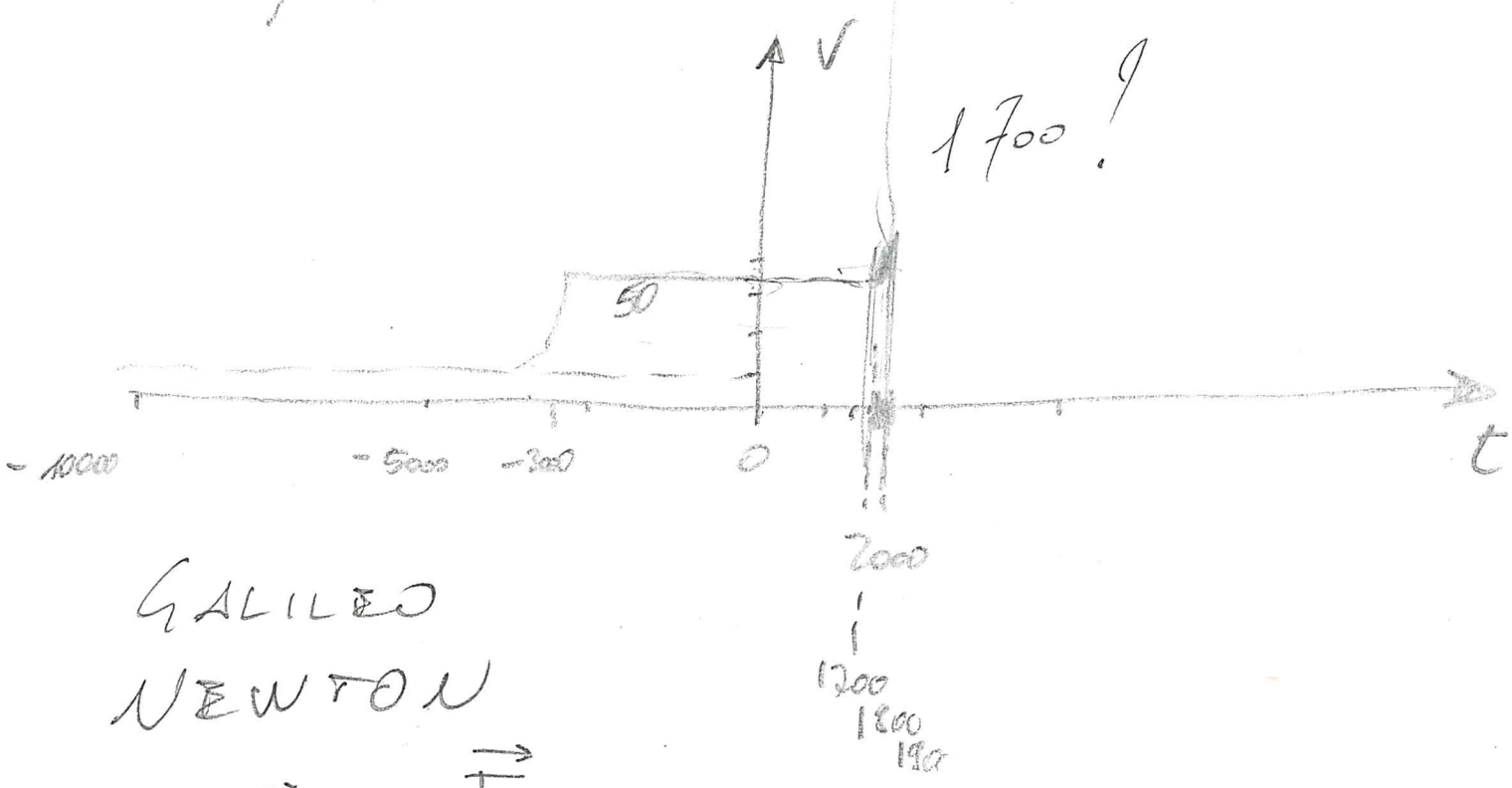
$v_C = 0$

6 GDL

4 GDL

20000 km/h

Σύνοψις DINAMICA

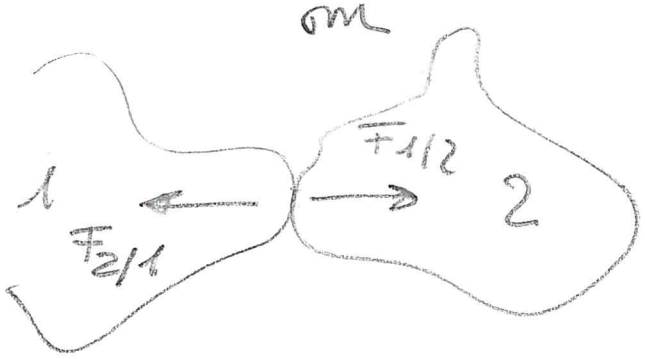


1700 !

GALILEO

NEWTON

$$\vec{a} = \frac{\vec{F}}{m}$$



D'ALEMBERT $\quad \vec{F}_e + \vec{F}_i = \vec{0} \qquad \vec{F}_i = -m\vec{a}$

$\vec{F} = m\vec{a}$?