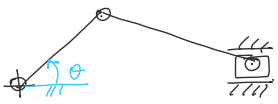
Cinematica dei sistemi di corpi rigidi

lunedì 11 ottobre 2021 09:41

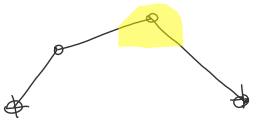
MECCANISMI PIANI



MANOV. DI SPINTA

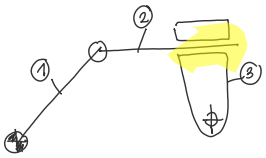
$n°gdl = 3\times3 - 3\times2 - 1 - 2 = 1$ (CER. CP) → θ

$\theta(t) \Rightarrow \dot\theta(t),\ \ddot\theta(t)$



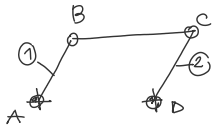
QUADR. ARTICOLATO

$n°gdl = 3\times3 - 4\times2 = 1$



GLIFO OSCILLANTE

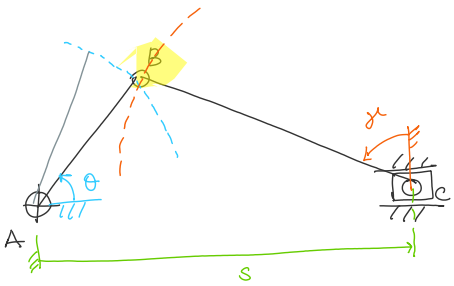
$n°gdl = 3\times3 - 3\times2 - 2 = 1$ (CER, CP)



PARALL. ARTICOLATO $\omega_1 = \omega_2 \Rightarrow$ BC ⇒ BIELLA ⇓ MOTO TRASLATORIO

CALCOLO GDL MECCANISMO

FORMULA DI GLUBER (2D) ⇒ $n°\,GDL \geq 3 \times n°\,CORPI - n°\,GDL\ VINCOLATI$



$n°gdl \geq 1$

→ dobbiamo verificare che $ngdl = 1$

→ si ragiona per assurdo

ANALISI CINEMATICA

→ MECCANISMI AD 1 GDL ⇒ θ

→ ANAL. CINEMATICA

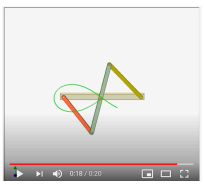
- POSIZIONE ⇒ $\theta(t), \dot\theta(t), \ddot\theta(t) \Rightarrow s(t), \dot s(t), \ddot s(t)$
- DIFFERENZIALE ⇒ ATTO DI MOTO $t = \bar t \Rightarrow \theta(\bar t), \dot\theta(\bar t), \ddot\theta(\bar t)$ ⇓ $\underline{v}_{P\in}(\bar t)$, $\underline{a}_{P\in}(\bar t)$ ∀ CORPO ⇓ $\dot s(\bar t), \ddot s(\bar t)$

Manovellismo di spinta

Quadrilatero articolato

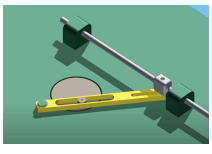
Parallelogramma articolato

Parallelogramma inverso

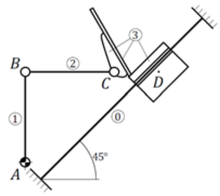


glifo oscillante

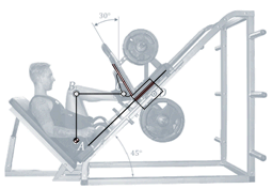
glifo

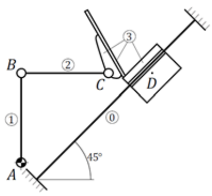


Dalla teoria... alla pratica

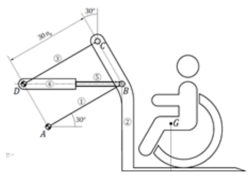


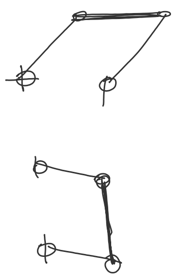
Dalla teoria... alla pratica



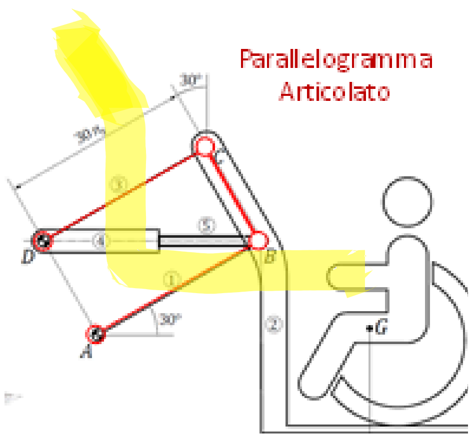


Dalla teoria... alla pratica





Dalla teoria... alla pratica



https://youtu.be/Vpz1OR-k5B87si=6-x VUı