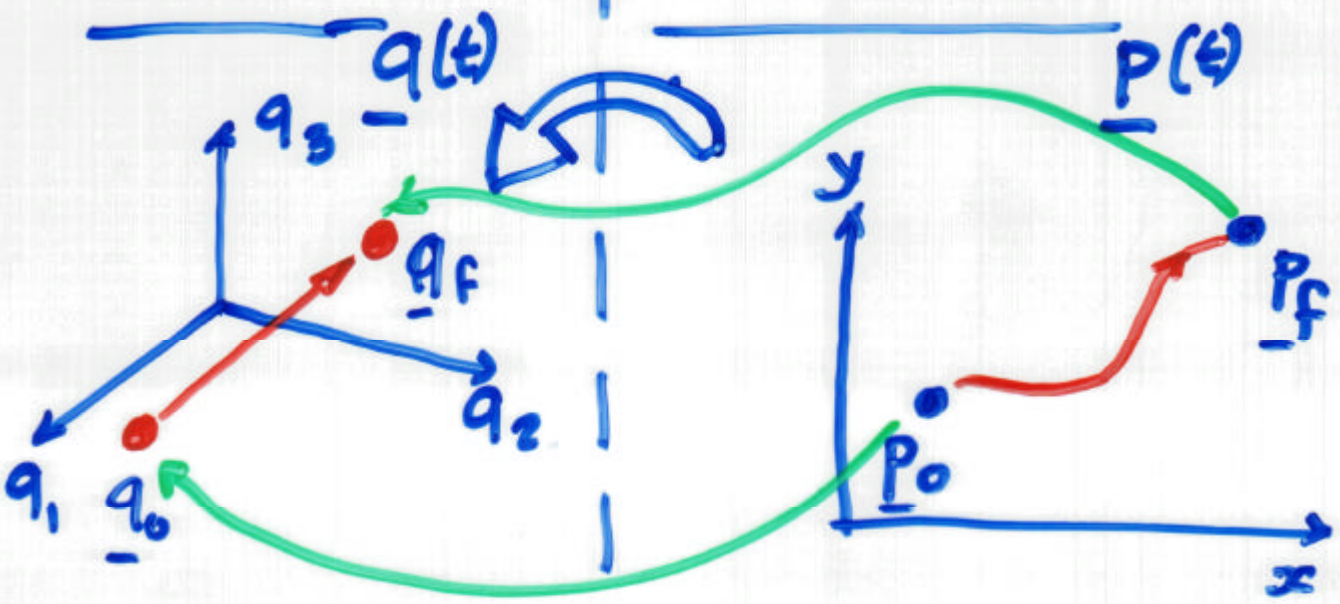
GIUNTI | CARTESIANO



DATI $\underline{P}_0$ & $\underline{P}_f$ PIANIFICARE

PIANIFICAZIONE PUNTO-PUNTO
POINT TO POINT

A) $\underline{P}_0 \rightarrow \underline{q}_0$

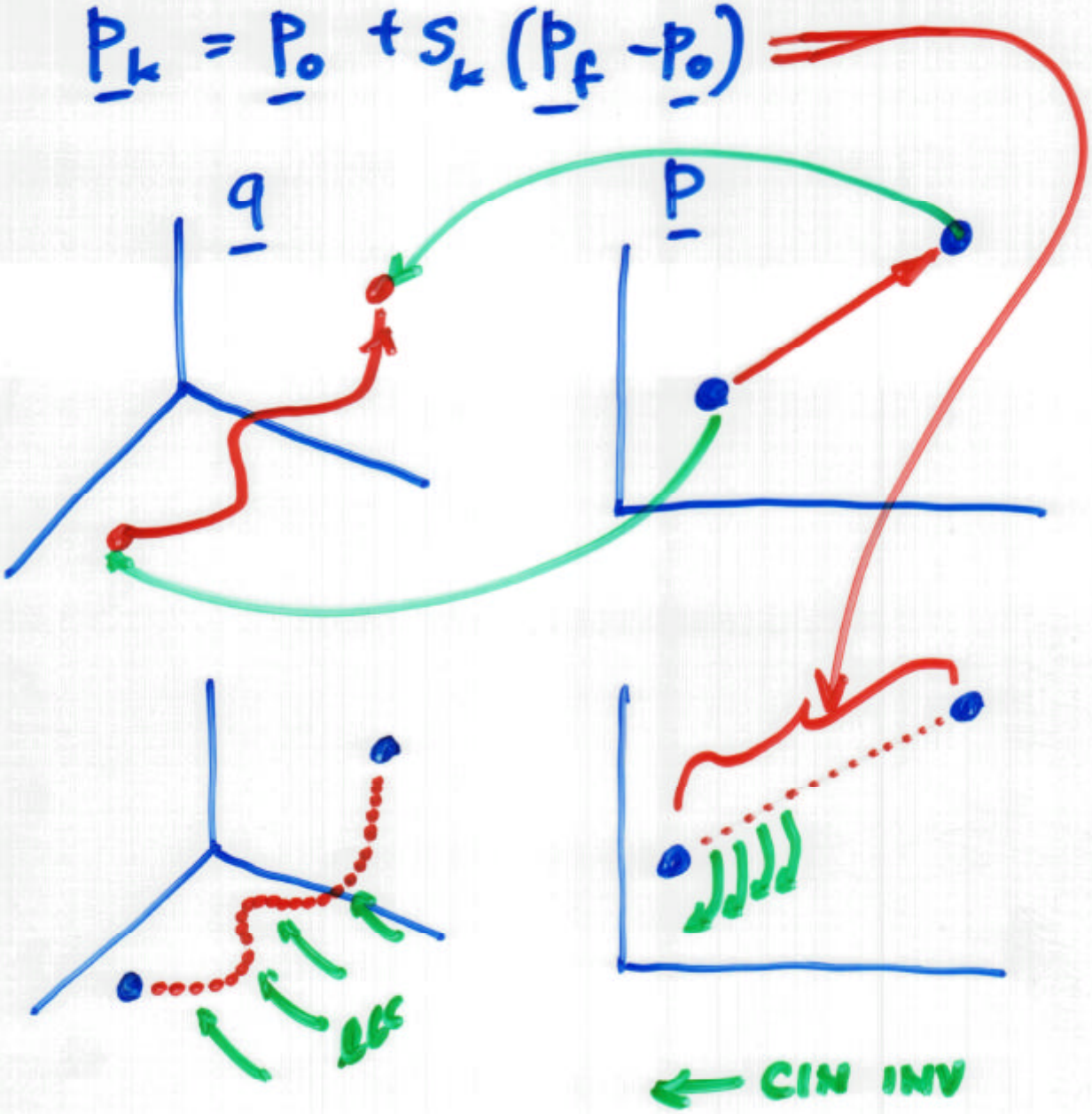
$\underline{P}_f \rightarrow \underline{q}_f$

PIANIFICO $\underline{q}(t) = \underline{q}_0 + s(t)(\underline{q}_f - \underline{q}_0)$

$\underline{q}_k = \underline{q}_0 + s_k(\underline{q}_f - \underline{q}_0)$

B) $\underline{p}(t) = \underline{p}_0 + s(t)(\underline{p}_f - \underline{p}_0)$

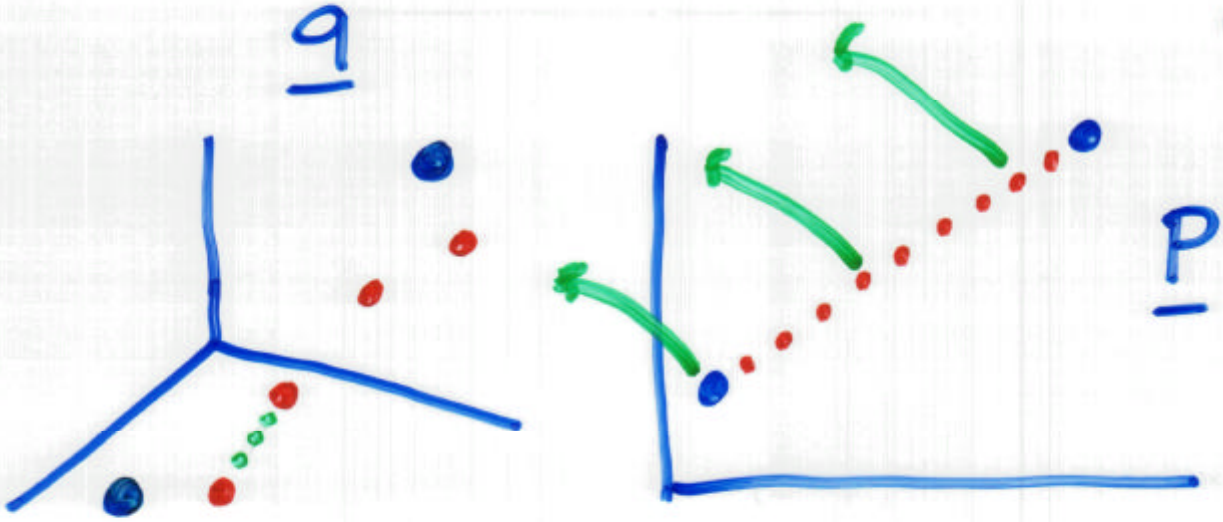
$\underline{p}_k = \underline{p}_0 + s_k(\underline{p}_f - \underline{p}_0)$



NON POSSIBILE X MOTIVI TECNOLOGICI

LA CIN INV A OGNI kT ADOTTO UNA TECNICA MISTA (IBRIDA)

MACRO - MICRO INTERPOLAZIONE



• ↑ Trasform. inv ogni 10 campioni

GENERO UNA TRAIETTORIA LINEARE IN $\underline{q}$ (pag 152)

p_k & p_{k+1} con $T' = N'T$

SOTTOCAMPIONAMENTO MACRO-INTERP.

$\downarrow$ $\downarrow$

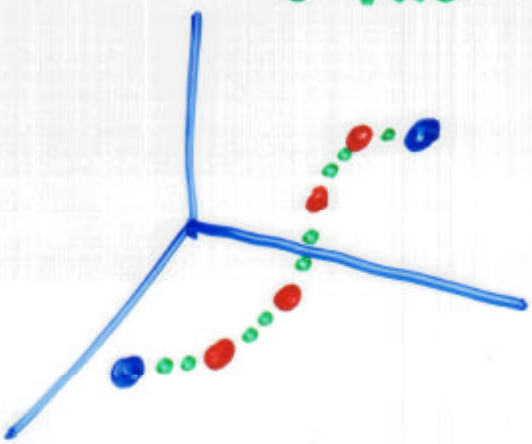
q_k q_{k+1}

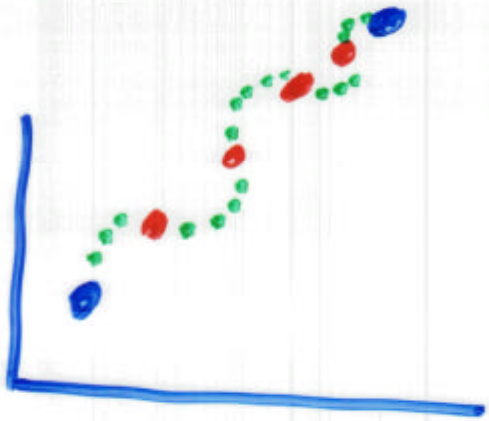
Δq_k

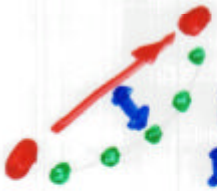
$$q_k^j = q_k + j \frac{q_{k+1} - q_k}{N'}$$

↑ MICROINTERPOLAZIONE

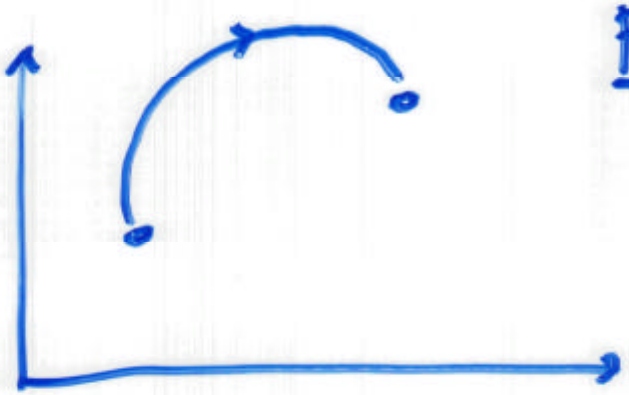
- MACRO
- MICRO (LINEARE)







ERRORE DIMENSIONALE



P

VOGLIO USARE S_k

p. 147

$x^2+y^2=r^2$

$r\cos(\theta_k)$

con $\theta_k = \theta_0 + S\Delta\theta$

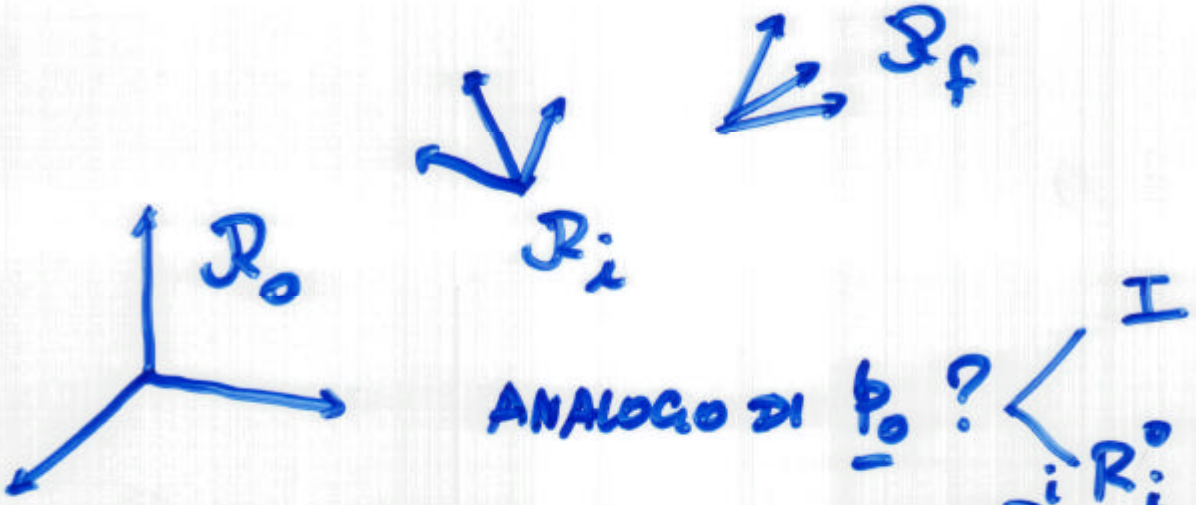
COME PIANIFICARE L'ASSETTO

3 METODI

METODO C → PIANIFICO ANGOLI DI EULERO

$R_k = \varepsilon_k R_f^0$ o SIMILI NO!!

↑ DEVE ESSERE SEMPRE ORTONORM.



ANALOGO DI $\underline{p}_0$? $\underline{p}_i$ R_i^0 I

" " $\underline{p}_f$ R_f

$$R(t) \rightarrow \begin{cases} \phi(t) \\ \theta(t) \\ \psi(t) \end{cases} = R(k,\phi)\,R(i,\theta)\,R(k,\psi)$$

$$\phi_k = \phi_0 + s_k(\phi_f - \phi_0)$$

$$\theta_k = \theta_0 + s_k(\theta_f - \theta_0)$$

$$\psi_k = \psi_0 + s_k(\psi_f - \psi_0)$$

$$R_f^i \rightarrow \phi_f\, j\, \theta_f\, j\, \psi_f$$

$$\phi_0 = \theta_0 = \psi_0 = 0$$

$$\phi_k = s_k \phi_f$$

$$\vdots$$

$$R_k = \text{Intero}(s_k \cdot \alpha_f)$$

$$R_k$$

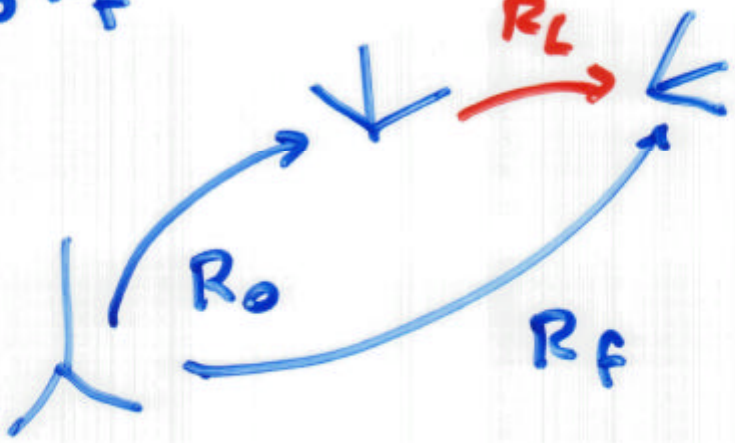
oppure $R_i^0 R_k$

METODO A) ASSE-ANGOLO
1 PARAMETRO

Rotazione iniziale $R_0 = I$

finale R_f

$$R_L = R_0^T R_f$$



$$R_f = R_0 R_L$$ POST-MOBILE

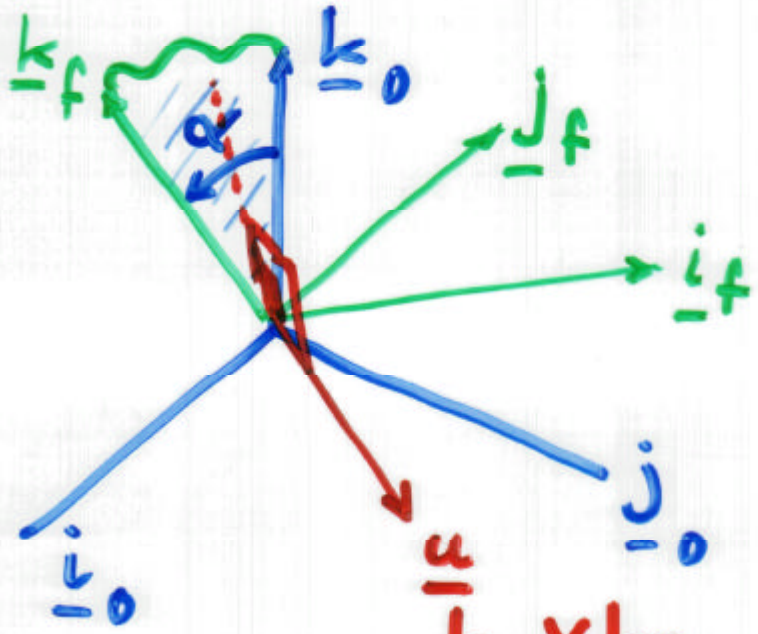
$R_L = R_0^T R_f \rightarrow$ estrazione $\underline{u}_L \ \theta_L$

$$R_k = Rot(\underline{u}_L, \theta_{Lk})$$

dove $\theta_{Lk} = s_k \cdot \theta_L$

METODO B) 2 PARAMETRI

SCIVOLAMENTO PIANO



$$\underline{u} = \frac{\underline{k}_0 \times \underline{k}_f}{\|\underline{k}_0 \times \underline{k}_f\|}$$

$R(\underline{u}, \alpha)$ $R(\underline{k}, \beta)$

$R(\underline{u}, \alpha)\, R(\underline{k}, \beta)$

$I + \sin\alpha\, S(\underline{u}) + (1-\cos\alpha)\, S^2(\underline{u})$

α, β ; $\underline{u}$?!?

$$\begin{bmatrix} c_\beta & -s_\beta & 0 \\ s_\beta & c_\beta & 0 \\ 0 & 0 & 1 \end{bmatrix}$$