Esempio $\quad \bar{r} \simeq \text{cost} \quad \Rightarrow \quad E_{pot} = E(\bar{r}) = \text{cost}$

$$\Rightarrow \quad \Delta E_m = \Delta E_k$$

Urti $\begin{cases} \text{elastici} & \boxed{\Delta E_k = 0} \quad \text{(forze conservative)} \\ \text{anelastici} & \Delta E_k \neq 0 \quad \text{(forze dissipative)} \end{cases}$

Sistema isolato $\quad \bar{R}^E_i = 0 \qquad \bar{R}^E = \dfrac{d\bar{P}}{dt}$

$$\Rightarrow \boxed{\bar{P}(t_0^-) = \bar{P}(t_0^+)}$$

$\bar{R}^E_i \neq 0$ forze non impulsive $\Rightarrow \left| \Delta\bar{P}^E \right| \ll \left| \Delta\bar{P}^I \right|$

$\Delta\bar{P}^E \to 0$

Sistema isolato $\Rightarrow \quad \bar{M}^E_{O,i} = 0$

$$\bar{M}^E_O = \frac{d\bar{L}_O}{dt} - \bar{v}_O \times m\bar{v}_{CM}$$

polo $\quad v_O = 0$, $O \equiv CM \quad \Rightarrow \quad \bar{M}^E_{pol} = \dfrac{d\bar{L}_{pol}}{dt} = 0$

$\Rightarrow \boxed{\bar{L}_{polo} = cost} \quad \Rightarrow \boxed{\bar{L}_{polo}(t_0^-) = \bar{L}_{polo}(t_0^+)}$

Sistema non isolato

$\bar{M}^E \neq 0$ non impulsivi $\Rightarrow |\Delta \bar{L}^E_{polo}| << |\Delta \bar{L}^I_{polo}|$

$\Delta \bar{L}^E_{polo} \simeq 0$

$\bar{M}^E \neq 0$ impulsivo $\Rightarrow \boxed{\bar{L} \neq cost}$