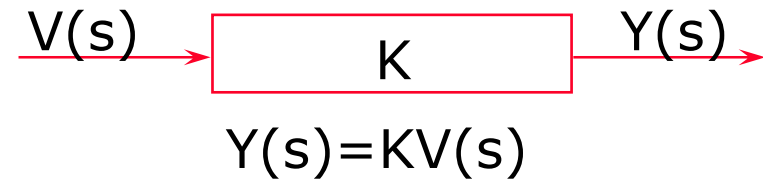

SCHEMI A BLOCCHI

(VEDI MARRO PAR. 1.2, 1.5)

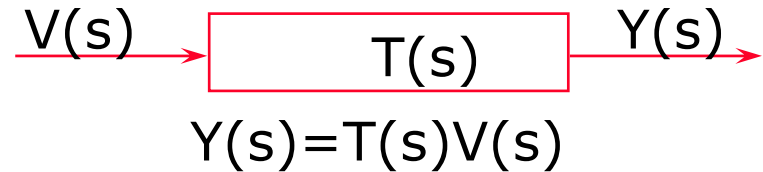
(VEDI VITELLI-PETTERNELA PAR. IV.1, IV.1.1, IV.1.2)

Operazioni nel dominio di Laplace

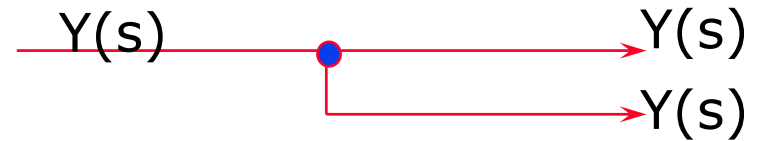
Moltiplicazione
per una costante
(Blocco Istantaneo)



Funzione di
trasferimento
(Blocco Dinamico)



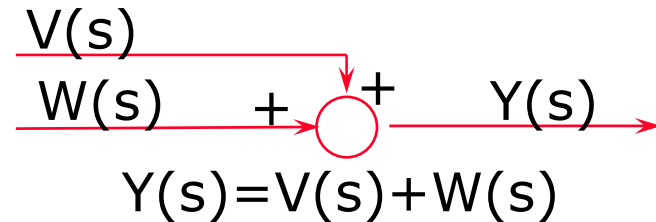
Punto di Prelievo
o DIRAMAZIONE



(Attenzione: non c'è sottrazione!)

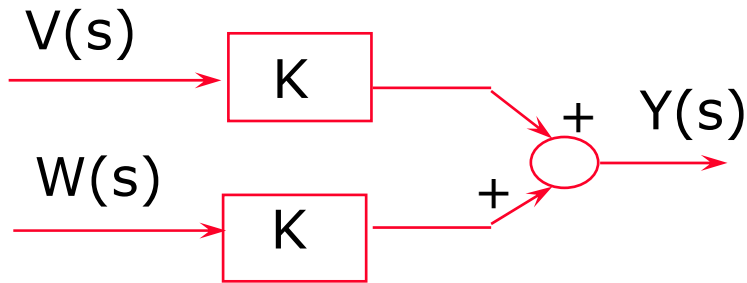
Sommatore
(Nodo di Somma)

Spesso, se c'è un segno -,
prende il nome di organo di confronto o comparatore



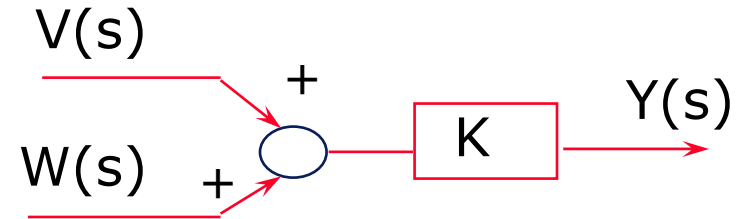
INTERCONNESSIONE E MANIPOLAZIONE DEI BLOCCHI

Sono possibili tutte le operazioni che hanno un equivalente aritmetico.



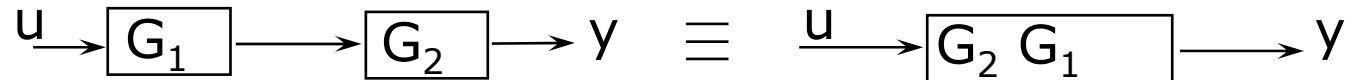
$$Y = KV + KW$$

≡



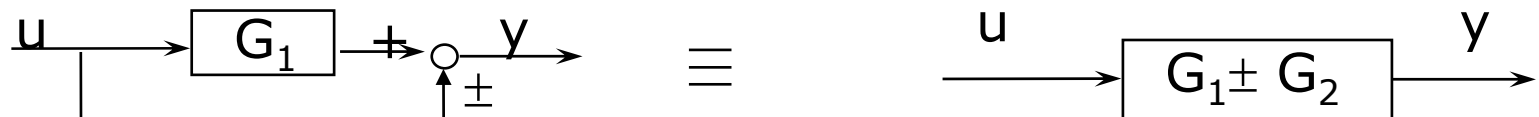
$$Y = K(V + W)$$

cascata



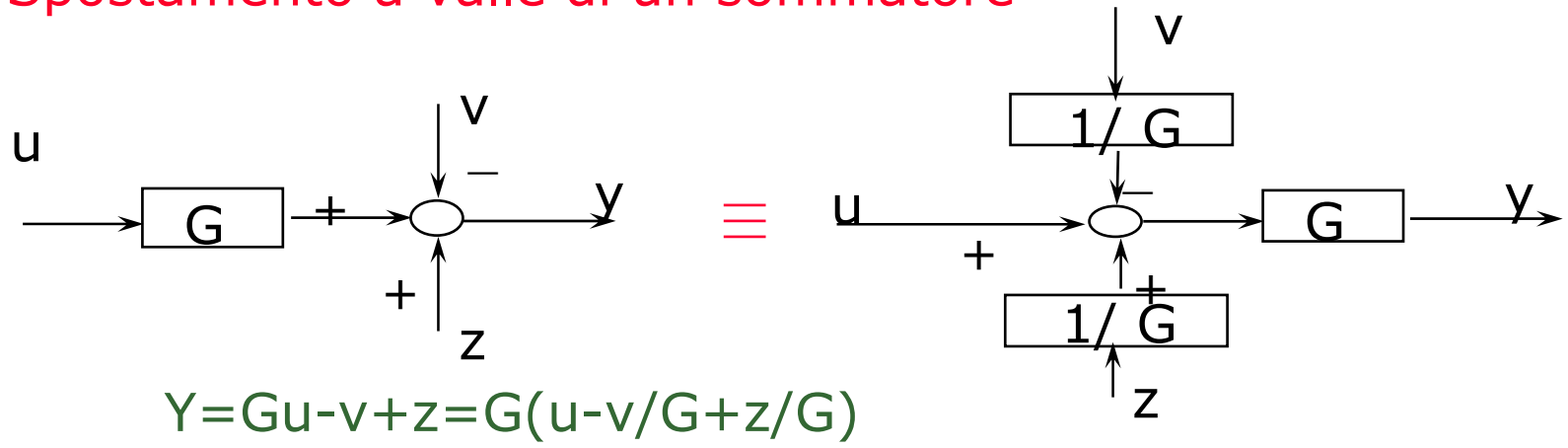
Nota: $G_1 G_2 = G_2 G_1$ perché sono scalari !

Blocchi in parallelo

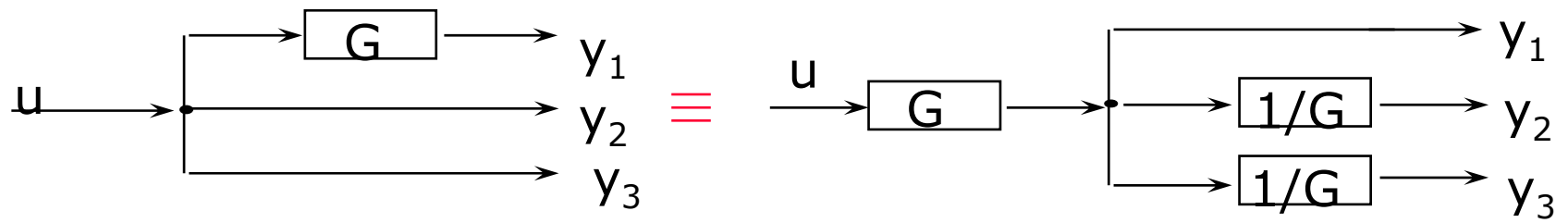


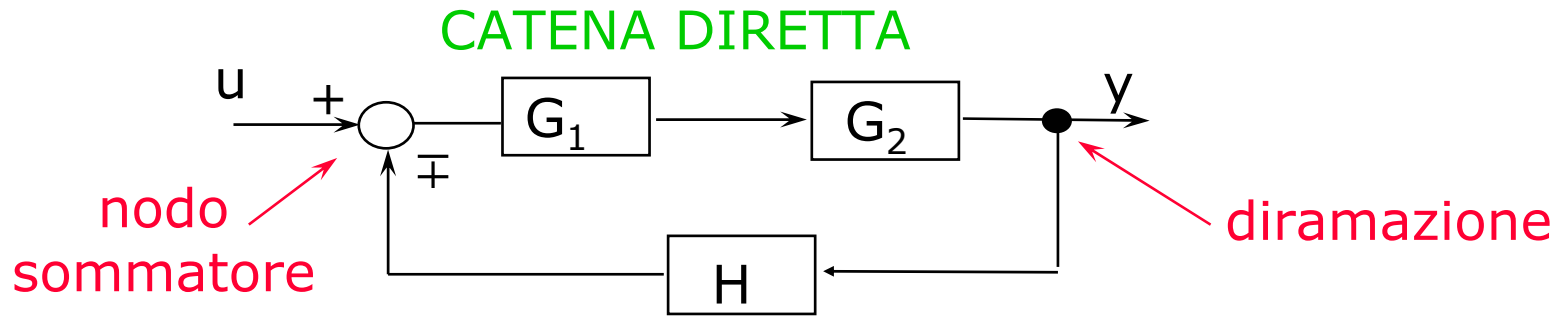
$$y = (G_1 \pm G_2) \cdot U$$

Spostamento a valle di un sommatore



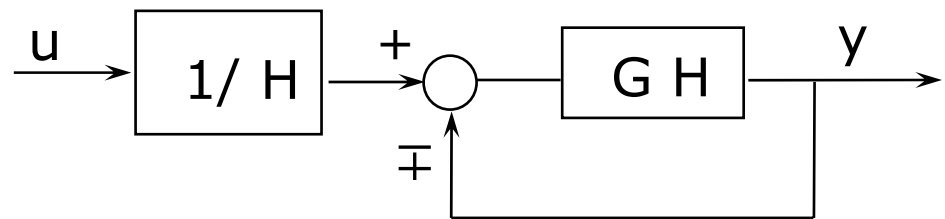
Spostamento a monte di una diramazione

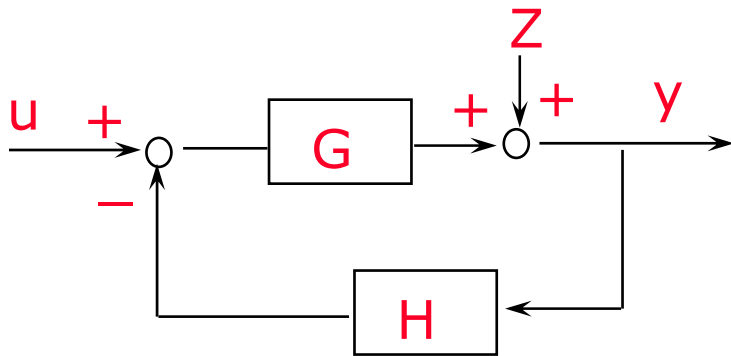




$$W(s) = \frac{Y(s)}{U(s)} = \frac{G_1(s)G_2(s)}{1 \pm G_1(s)G_2(s)H(s)}$$

Trasformazione a
"REAZIONE UNITARIA"



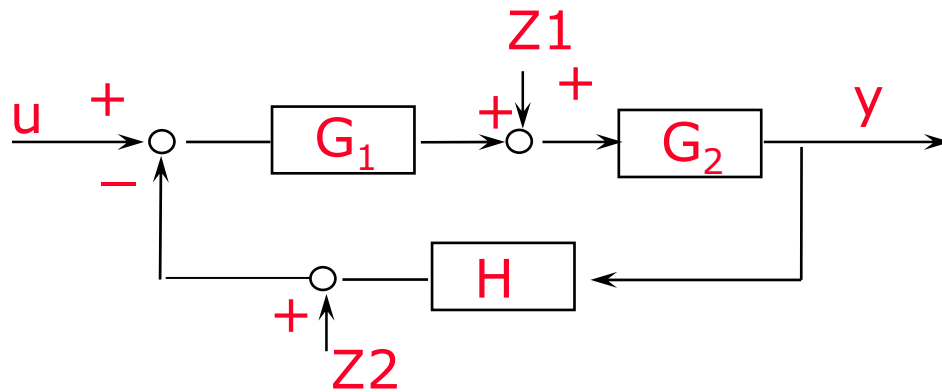


$$W(s) = \frac{Y(s)}{U(s)} = \frac{G}{1 + GH}$$

In => Out

$$W_Z(s) = \frac{Y(s)}{Z(s)} = \frac{1}{1 + GH}$$

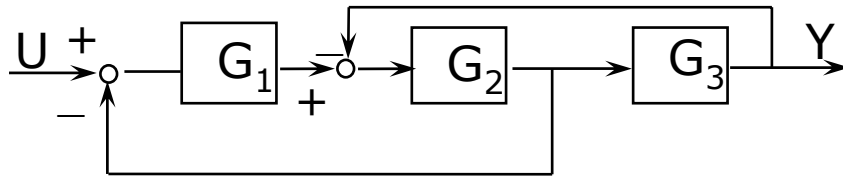
Z => Out



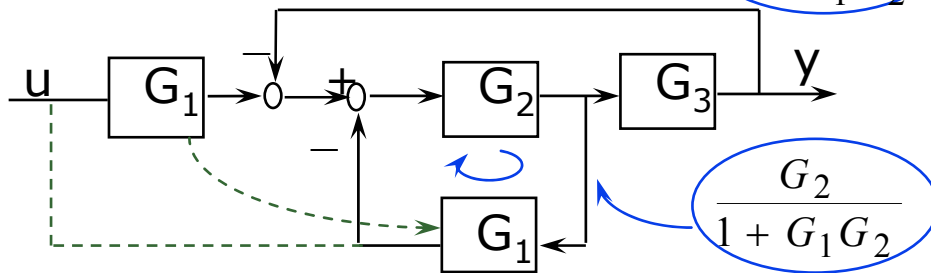
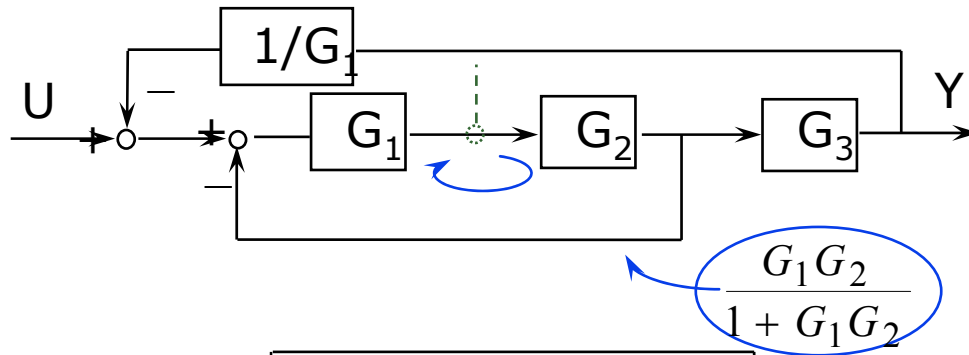
$$W_{Z1}(s) = \frac{G_2}{1 + G_1 G_2 H}$$

$$W_{Z2}(s) = -\frac{G_1 G_2}{1 + G_1 G_2 H} = -W(s) !$$

UN CASO IMPORTANTE



3 Possibilità



La f.d.t. Y/U viene la stessa

