

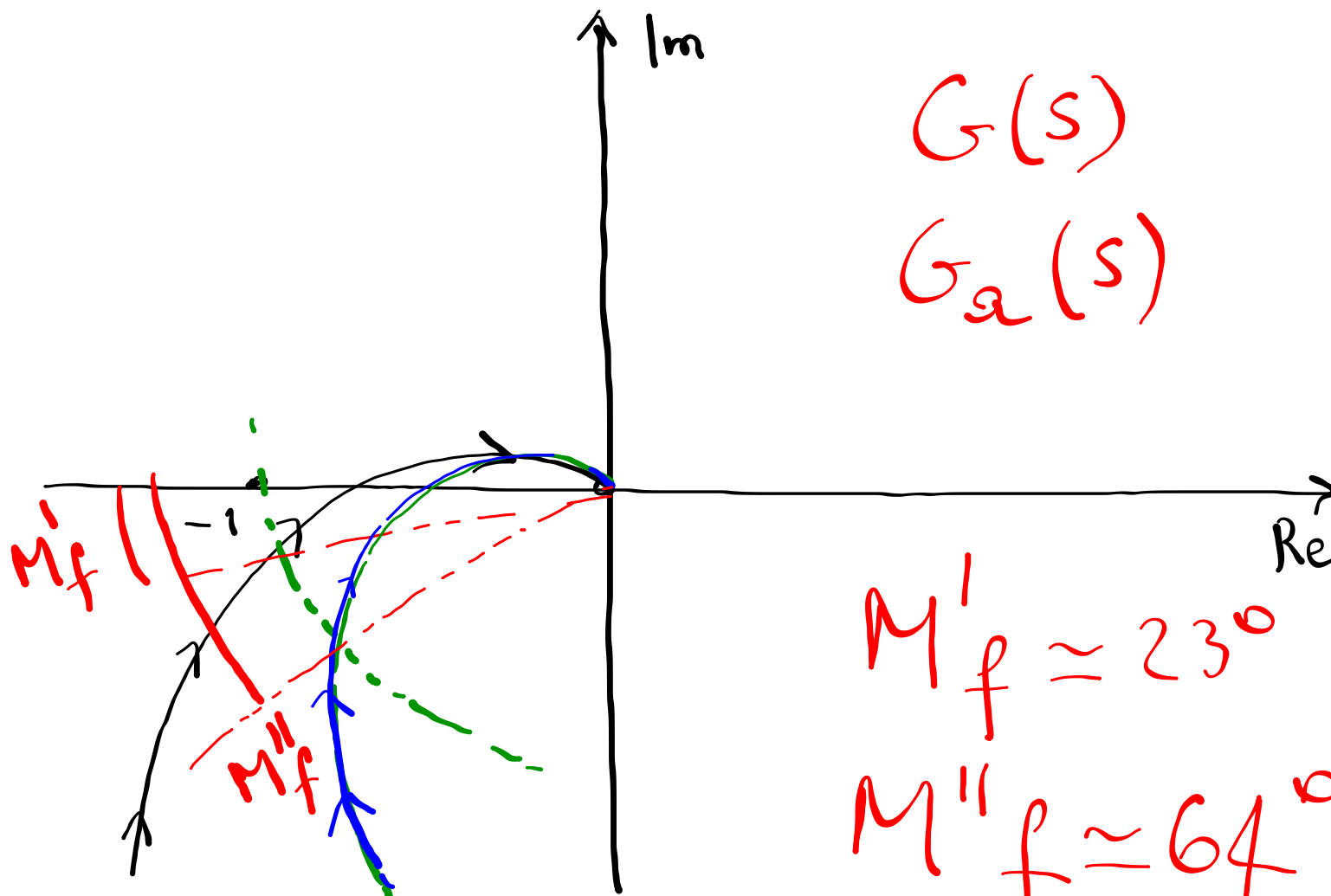
$$G(s) = 0.2 \frac{(1 - 2s)}{s(1 + 10s)(1 + 0.1s)}$$

zero positivo

Sistemi a fase
non minima

$$R(s) = \frac{1 + 10 \cdot s}{1 + 0.1 \cdot s}$$

$$M_f \in [45^\circ \div 60^\circ]$$

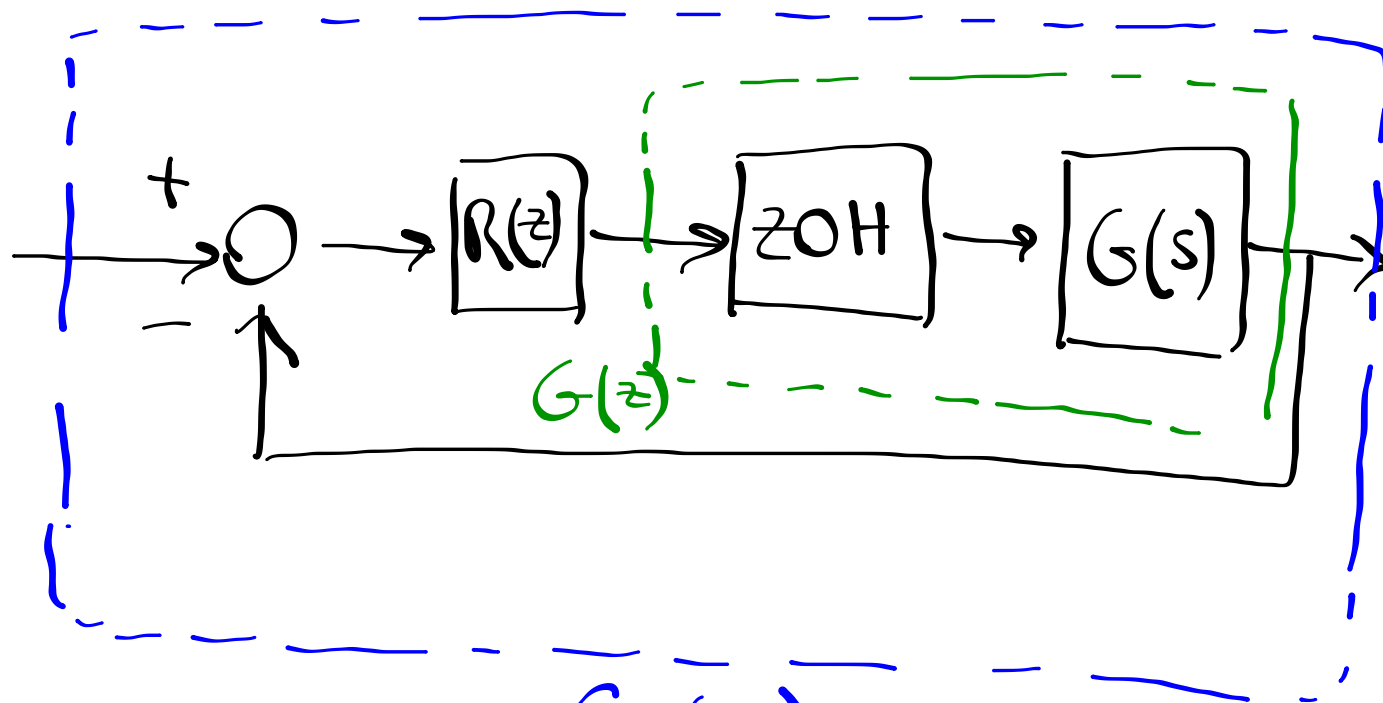


1) Tustin (TU)

$$R_1(z) = R(s) \left| s = \frac{2}{T} \frac{z-1}{z+1} \right.$$

$$T = 1s$$

~~$$s = \frac{1}{T} \ln z$$~~



$$G(z) = \mathcal{Z} \left[\begin{matrix} 1 - e^{-sT} & G_r(z) \\ s & G(s) \end{matrix} \right]$$

$$G_r(z) = \frac{R(z) \cdot G(z)}{1 + R(z) \cdot G(z)} = \frac{B(z)}{A(z)}$$

2) Hold Equivalence

$$R_2(z) = \mathcal{Z} \left[\frac{1 - e^{-sT}}{s} R(s) \right]$$