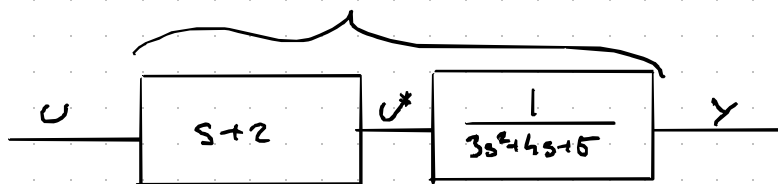
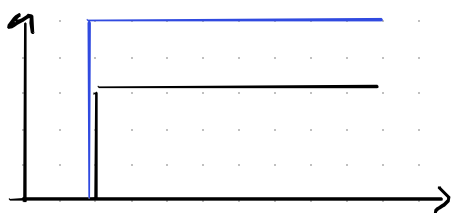


Why initially the other direction?



$$u^* = u \cdot (s+2) \xrightarrow{P^{-1}} \underbrace{\frac{du}{dt} + 2u}_{\text{increases of } u}$$



But what happens if zeros are on RHP

$$u^* = u \cdot (-s+2) = -\frac{du}{dt} + 2u$$

→ this results in a first negative impulse

These systems can not be controlled aggressively because they can get unstable.

It can be seen in the s-plane because the poles travel to the RHP zeros with the increase of K. But also in the Bode-Plot it is notisable because the zeros reduce the Phasemargin.