

HMI

Sampling time $T_{s,hmi}$ "slow"

Parameter tuning

- reference r
- controller K_P, K_I, K_D

Graph

- reference r
- control u
- states y
- residuals
- security metric

Canal

a_r

$r, K_P,$
 K_I, K_D

output y
control u

a_{y2}
 a_{u2}

Control loop

Controller

- Sampling time T_s "fast"
- Control parameters, e.g. K_P, K_I, K_D
- SISO and MIMO compatible
- Package management

Canal

a_{u1}

control u

output y

a_{y1}

Plant

Physical

- Analog I/O

or

Simulated

- Sampling time $T_{s,plant}$
- Differential eqn. approx.
→ Euler method