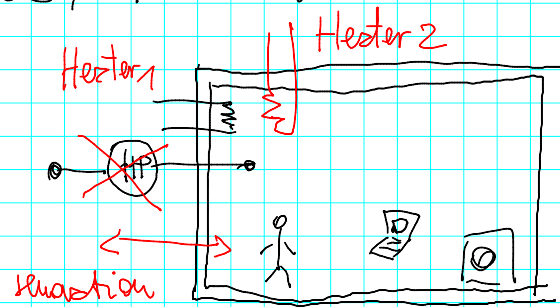
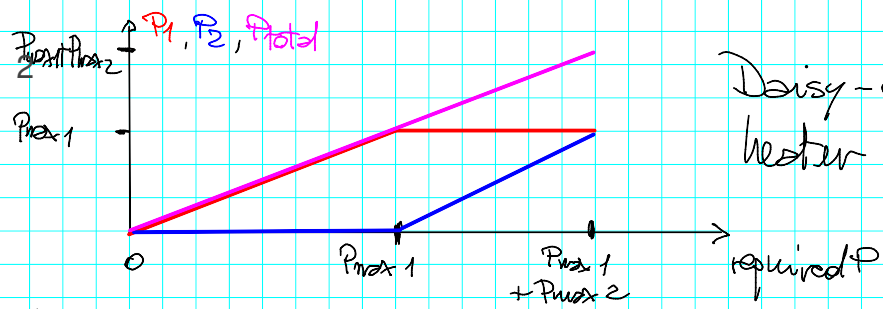


22/05/2019

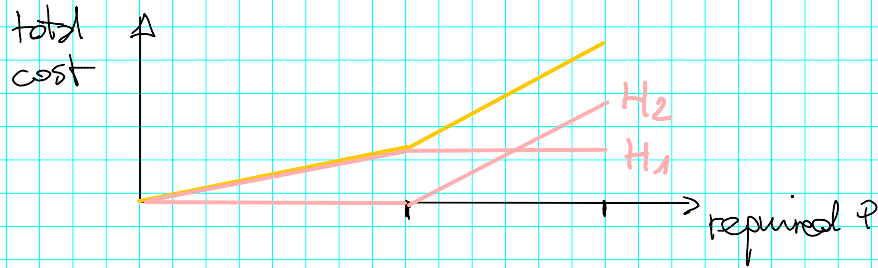
● CASE STUDY 1: room



Note: Although heaters can be different (e.g. electric vs. HP)
For the system level I can just model both as a prescribed
power & two different cost functions

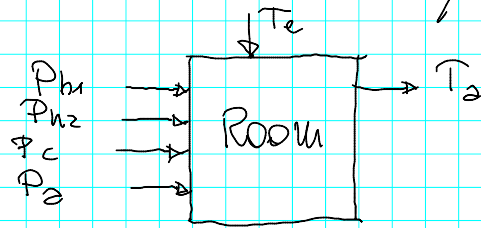


Daisy-chaining of heater 1 & 2



H_2 is more expensive

Model for controlled system



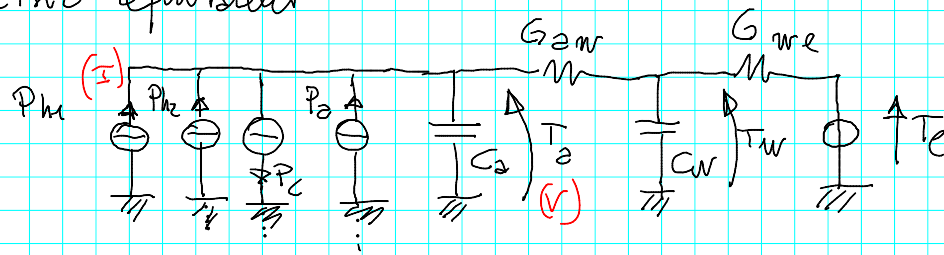
$P_{h1,2}$ Heaters 1 & 2
 P_c cooler
 P_a produced in the
 contained air
 T_e external T
 T_a T of air inside

Two energy balances for air & wall

$$G_a \dot{T}_a = P_{h1} + P_{h2} - P_c + P_a - G_{aw} (T_a - T_w)$$

$$G_w \dot{T}_w = G_{aw} (T_a - T_w) - G_{we} (T_w - T_e)$$

Electric equivalent



If you write electrical balances here, you get the same equations as before

Set up a control policy for heating (& cooling)

