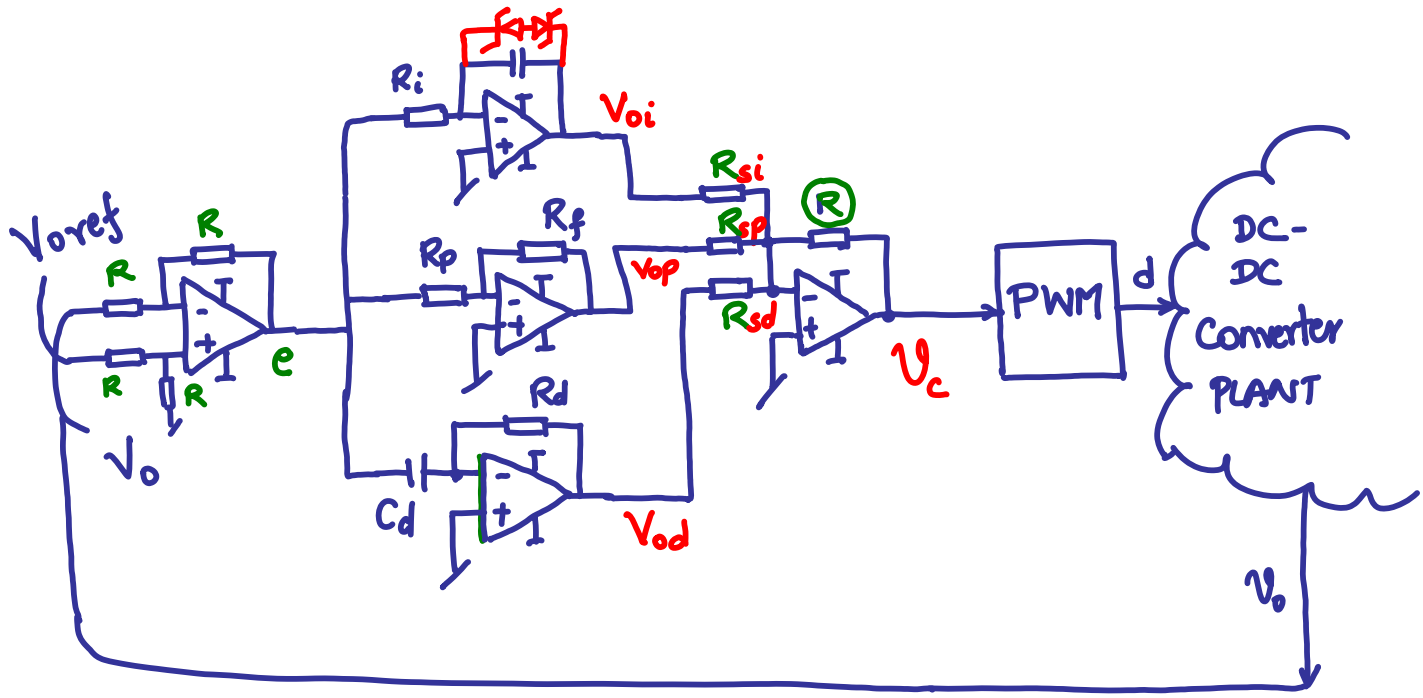
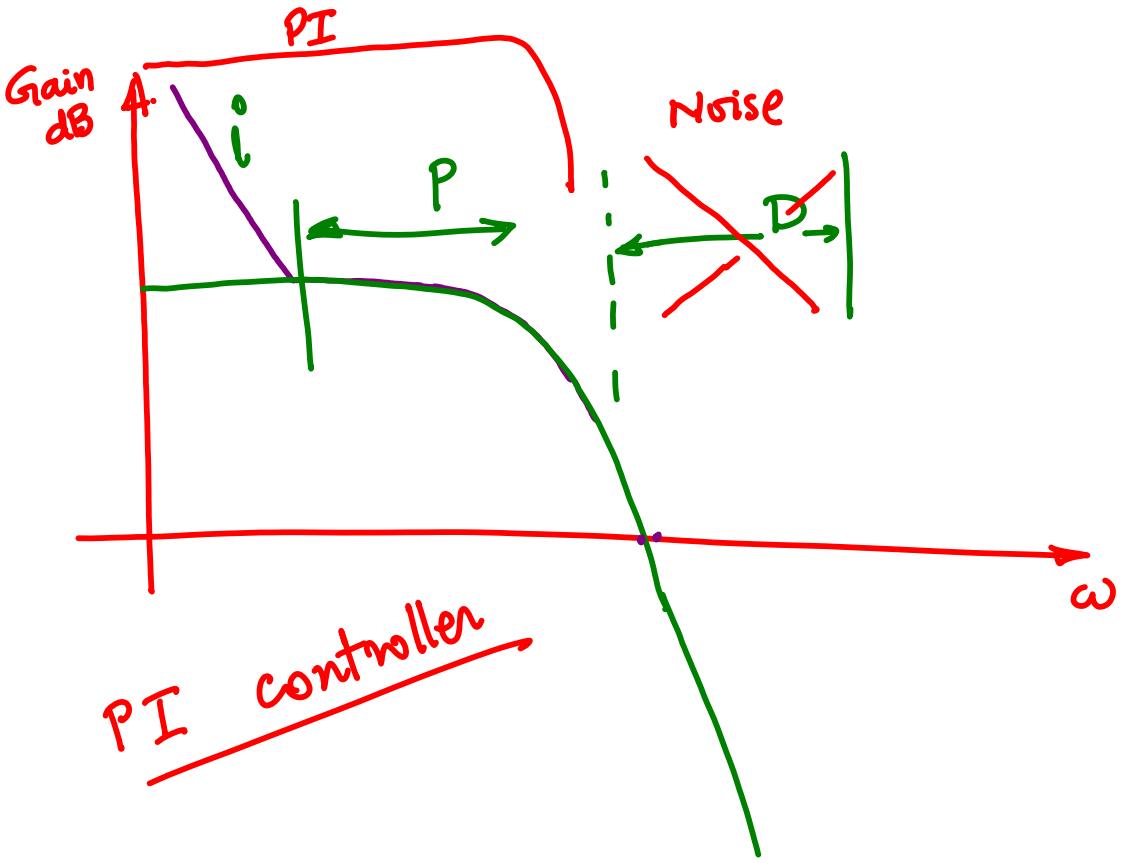
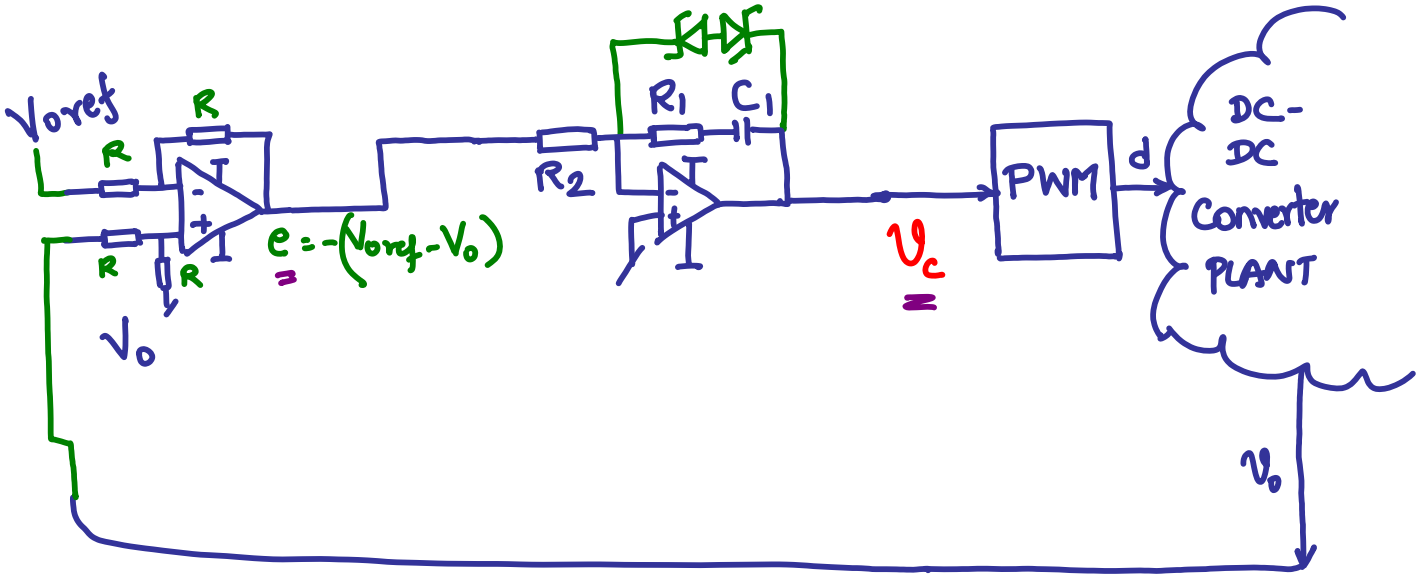
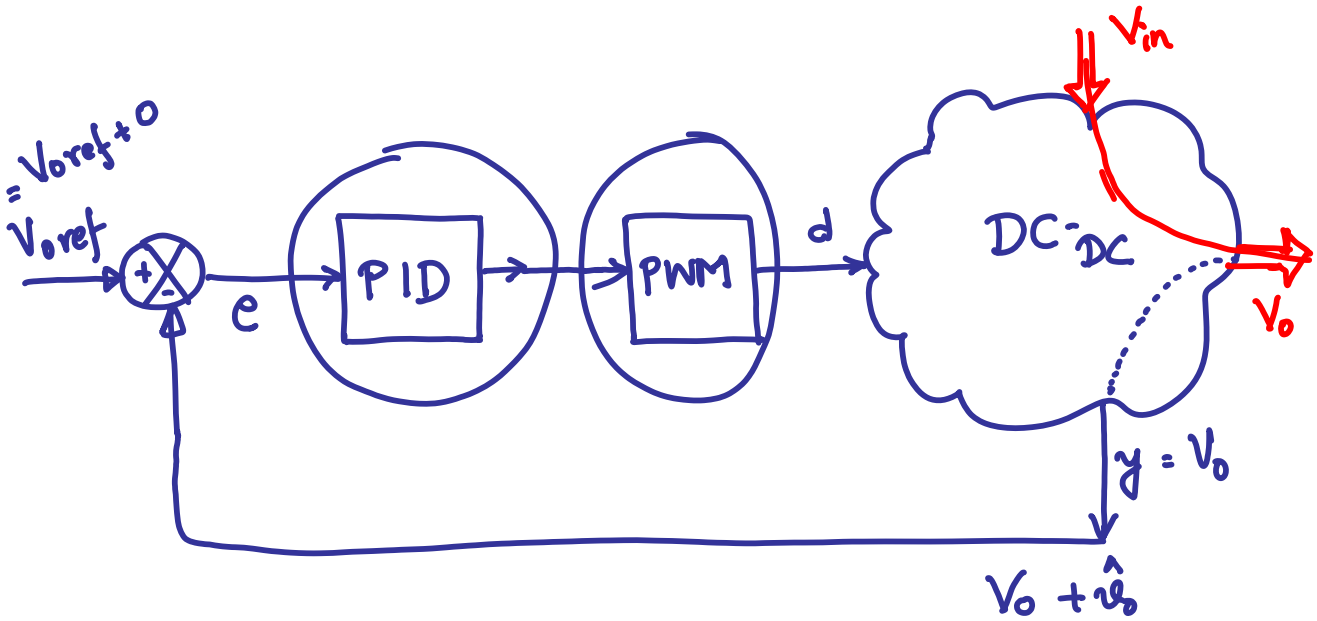

Voref
R
R
R
R
e
Vo
Ri
Voi
Rf
Rp
Vop
Rd
Cd
Vod
Rsi
Rsp
Rsd
R
vc
PWM
d
DC-DC Converter PLANT
vo



PI controller


Voref
R
R
R
R
Vo
e = -(Voref - Vo)
R2
R1
C1
vc
PWM
d
DC-DC Converter PLANT
vo


$= V_{oref} + 0$
V_{oref}
+
-
e
PID
PWM
d
DC-DC
V_{in}
V_o
$y = V_o$
$V_o + \hat{v}_o$