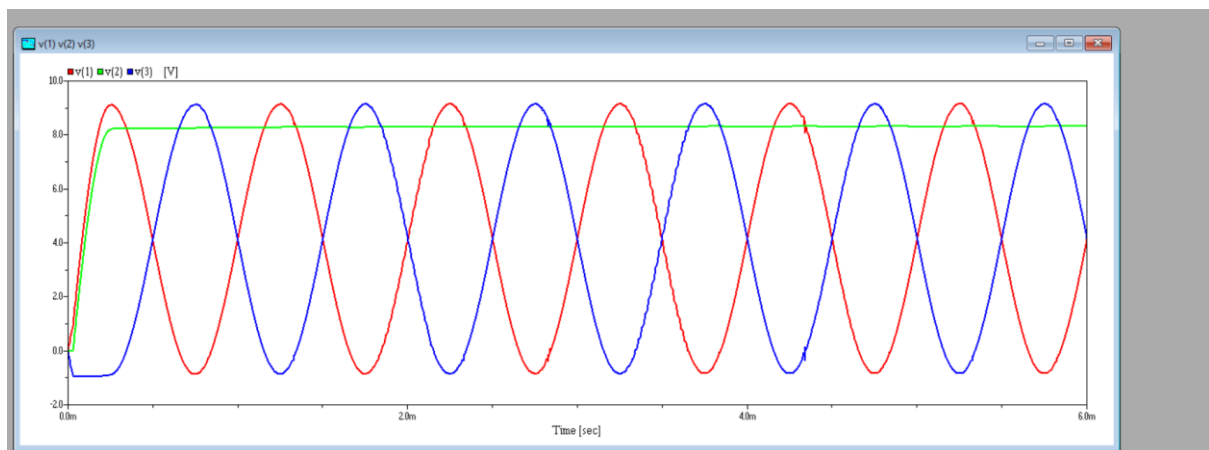


Filter rectifier

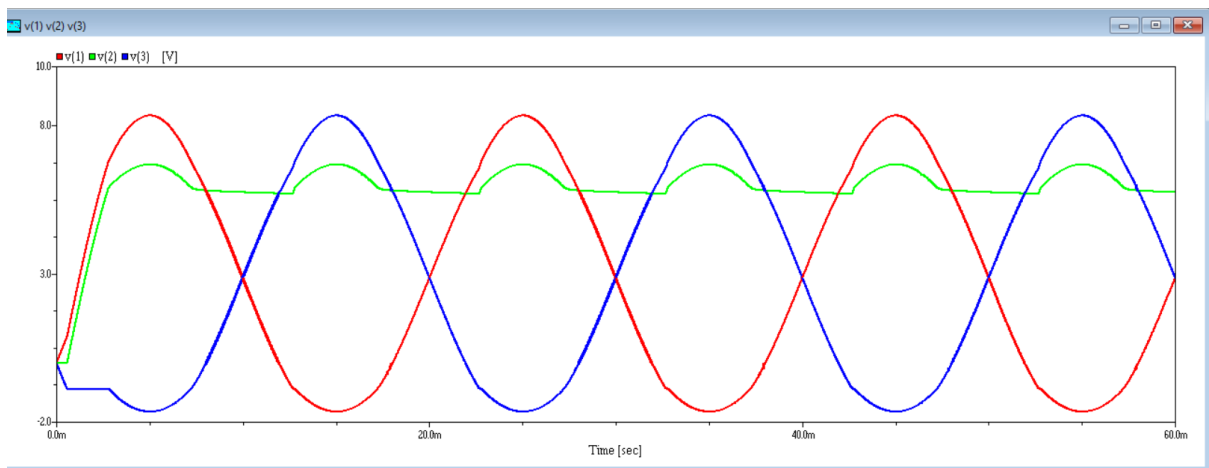
```
Filter rectifier
D1 1 2 DiodaS
D2 0 1 DiodaS
D3 0 3 DiodaS
D4 3 2 DiodaS
.Model DiodaS D tt=1e-9
R1 2 0 100
Vin 1 3 Sin(0 10 1k 0 0)
C1 2 0 3m
```



Parametric regulator with Zener diode

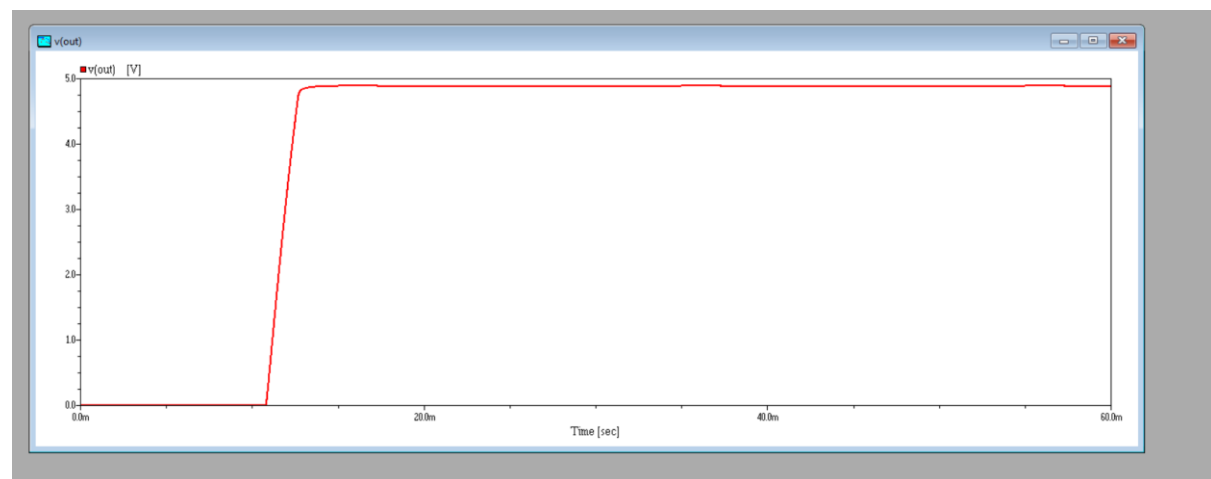
```
C:\filterrectifier.cir

Filter rectifier
D1 1 2 DiodaS
D2 0 1 DiodaS
D3 0 3 DiodaS
D4 3 2 DiodaS
.MODEL DiodaS D tt=1e-9
R1 2 0 100
Vin 1 3 Sin(0 10 50 0 0)
C1 2 0 3m
dz 0 2 zener
.model zener d bv=5.7
```



Reaction regulator with no error amplifier

```
C:\lab4.cir
D1 1 2 diode
D2 0 1 diode
D3 0 3 diode
D4 3 2 diode
.model diode d tt=1e-9
c1 2 0 3m
dz 0 vz zener
.model zener d bv=5.7
r1 2 vz 220
! C B E
Q1 2 vz out transistor
.model transistor npn tr=1e-9 tf=1e-9
r1 out 0 100
vin 1 3 dc 5 sin(0 10 50 0 0)
|
```



Inverter with bipolar transistor

C:\inverterbipolartransistor.cir

```
Inverter with bipolar transistor
Vin in 0 DC 0
Vec cc 0 DC 5
R1 in b 1k
Rc cc out 1k
Q1 out b 0 Tranz
.MODEL Tranz NPN TR=5E-9 TF=8E-9
```

