Vienkru elektrisku shmu modelana

Mihails Linkevics

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Chapter 1

Teortisk daa

1.1 des aprins

[scale=1, every node/.style=transform shape] (0,2) to[V=$V1$,] (0,0) (0,2) to[R=$R1$, -] (4,2) (4,2) to[R=$R2$, -] (4,0) (0,0) to[short, -] (4,0) ; Apiniet spriegumus uz rezistoriem 1. attl dotaj shm. Sprieguma avota V1 sprieguma vrtbu U (Voltos) izvlieties daskaitli, kas btu Jsu apliecbas pdjie trs cipari dalti ar 10. Piemram. 101REB123 nozm V1 = 12.3 (Volti), R1 ir apliecbas pdjo 3 ciparu otrais numurs+1, R2 ir apliecbas numura pdjais cipars +1. Piemram, ja Jsu apliecbas numurs ir 101REB123 tad R1=3, R2=4. Nofotografjiet aprinu vai saglabjiet lapiu. Aprina gaita bs nepiecieama darb P02. Turklt, aprins bs jpievieno atskaitei, ko veiksiet semestra beigs. [**?**] [**?**]

V=184/10= 18.4 V
R1=8+1= 9 Ohm
R2=4+1= 5 Ohm

I= V1/(R1+R2)=18.4/(9+5) = 1.31 A
UR1 =I*R1=9*1.31= 11,79 V
UR2 I*R2=5*1.31= 6.55 V Izveidoju tabulu ar rezulttiem (**??**)

R1	9 Ohm
R2	5 Ohm
V1	18.4 V
UR1	11.79 V
UR2	6.55 V

Table 1.1: Kedes elementu spriegumi un vertibas

Chapter 2

Praktiska dala

2.1 Darbs ar GEDA programmm

2.1.1 darbs ar gschem

Ar GEDA komandu gschem izveidoju shemu
(**??**) (**??**)

2.1.2 darbs ar gnetlist

* Spice netlister for gnetlist
V1 2 0 18.4
R2 1 0 5
R1 2 1 9
.END

2.1.3 darbs ar ngspice

Ar ngspice izveidoju divus grafikus. Att. (**??**) un (**??**)

2.2 Darbs are QUCS programmm

2.2.1 Principla shma

Shma ar visiem elementiem, R2 ir aizvietots ar x lai to izmantot k argumentu Parameter Sweep analz. (Att. **??**)

2.2.2 Tabula un grafiks

no grafika spriegums uz R2 mains proporcionli R2 pretestbas izmaiai pret kopjo pretestbu. (Att. **??**)

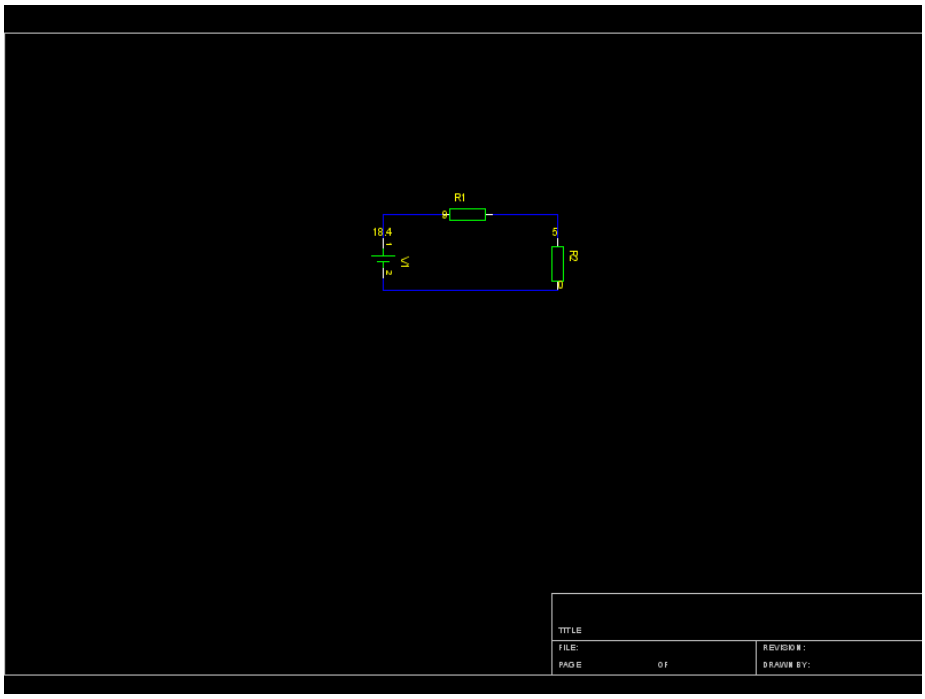


Figure 2.1: Elektrisk shma no GEDA

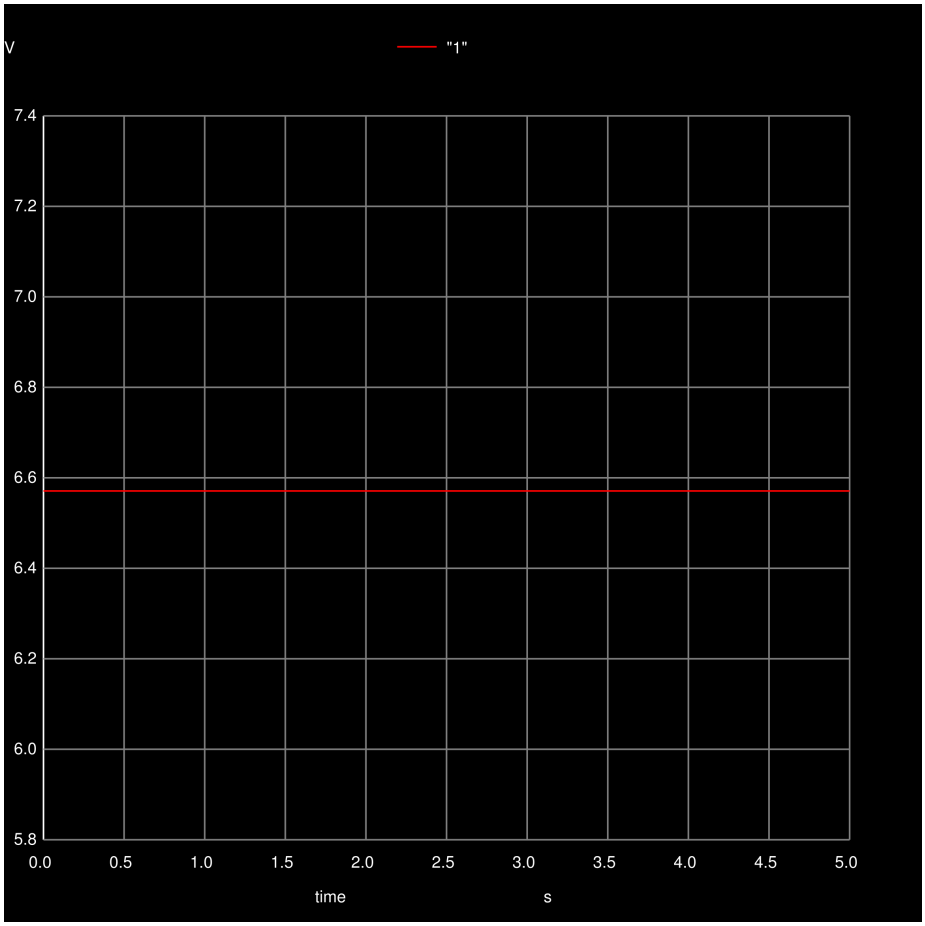


Figure 2.2: Grafiks no ngspice (1)

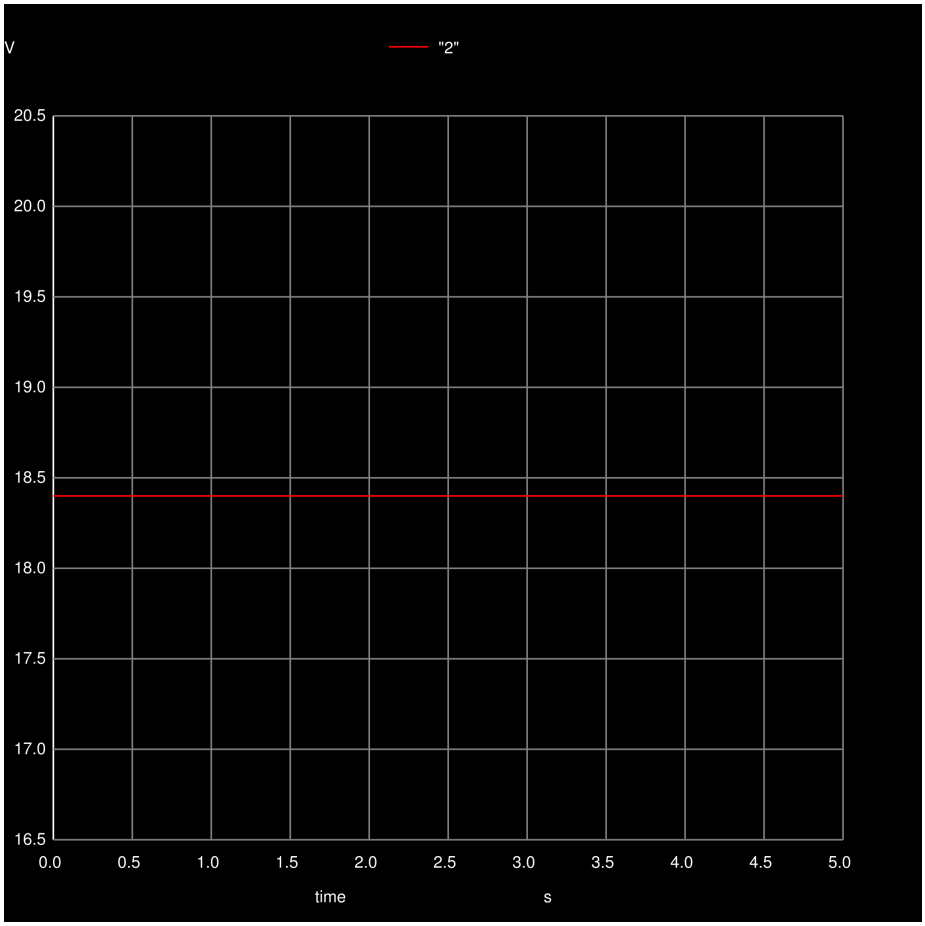
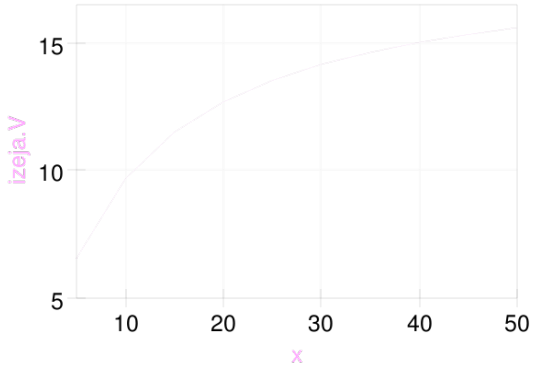


Figure 2.3: Grafiks no ngspice (2)

Figure 2.4: Principla shma



x	V1.I	izeja.V
5	-1.31	6.57
10	-0.968	9.68
15	-0.767	11.5
20	-0.634	12.7
25	-0.541	13.5
30	-0.472	14.2
35	-0.418	14.6
40	-0.376	15
45	-0.341	15.3
50	-0.312	15.6

Figure 2.5: Tabula un grafiks

Bibliography

[1] Andrejs Strauts. Elektrotehnikas teortiskie pamati, lekciju konspekts. Rga, RTU, 2008, -197 lpp.

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