

Vienkru elektrisku shmu modelana

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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 Jsua aplicbas pdjie trs cipari dalti ar 10. Piemram. 101REB123 nozm V1 = 12.3 (Volti), R1 ir aplicbas pdjo 3 ciparu otrais numurs+1, R2 ir aplicbas numura pdjais cipars +1. Piemram, ja Jsua aplicbas numurs ir 101REB123 tad R1=3, R2=4. Nofotografjiet aprinu vai saglabjiet lapiu. Aprina gaita bs nepiecieama darb P02. Turklrt, aprins bs jpievieno atskaitei, ko veiksiest semestra beigs. [?] [?]

$$V=178/10= 17.8 \text{ V}$$

$$R1=7+1= 8 \text{ Ohm}$$

$$R2=8+1= 9 \text{ Ohm}$$

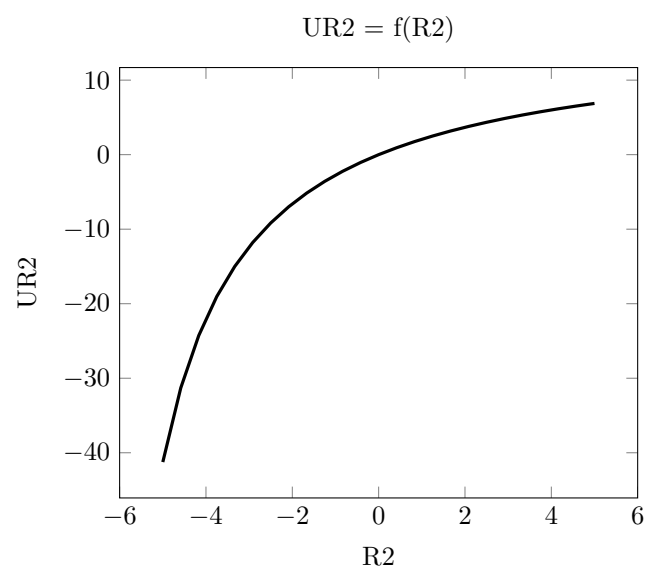
$$I= V1/(R1+R2)=17.8/(8+9) = 1.047 \text{ A}$$

$$UR1 =I*R1=1.047*8= 8.376 \text{ V}$$

$$UR2 I*R2=1.047*9= 9.423 \text{ V}$$
 Izveidoju tabulu ar rezulttiem (??)

R1	8 Ohm
R2	9 Ohm
V1	17.8 V
UR1	8.376 V
UR2	9.423 V

Table 1.1: Kedes elementu spriegumi un vertiibas



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 1 0 17.8
R2 2 0 9
R1 1 2 8
.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 izmaiiai pret kopjo
pretestbu. (Att. ??)

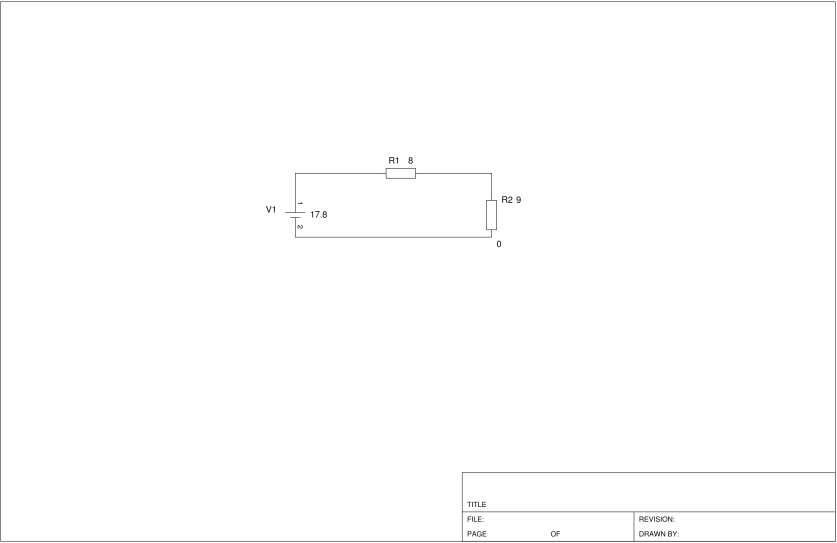


Figure 2.1: Elektrisk shma no GEDA

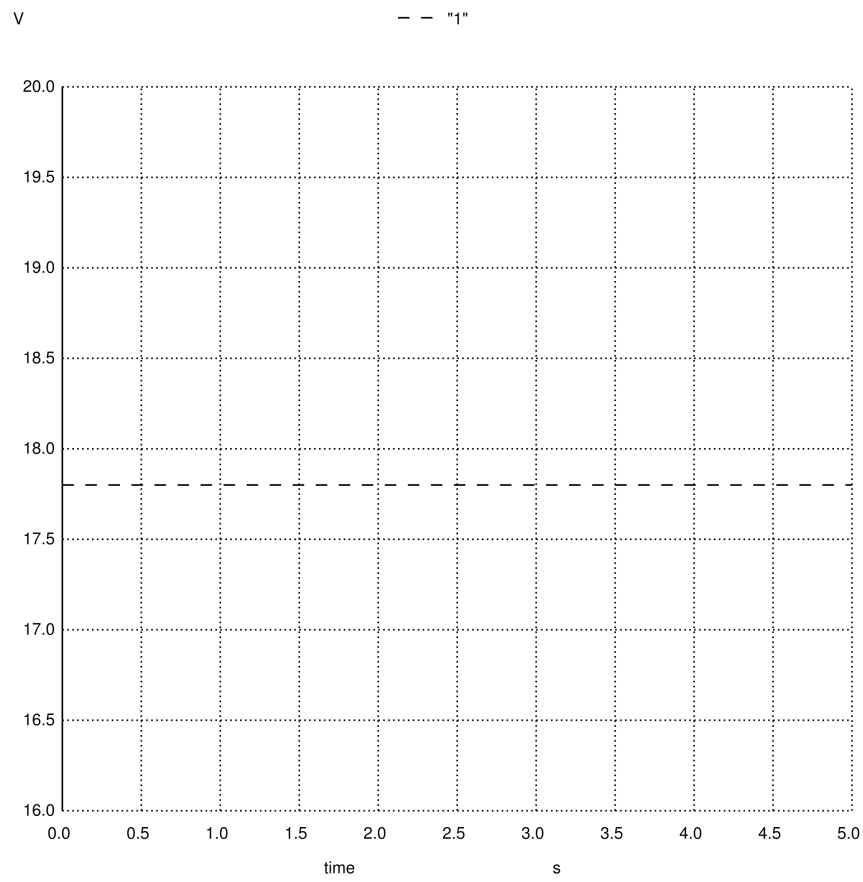


Figure 2.2: Grafiks no ngspice (1)

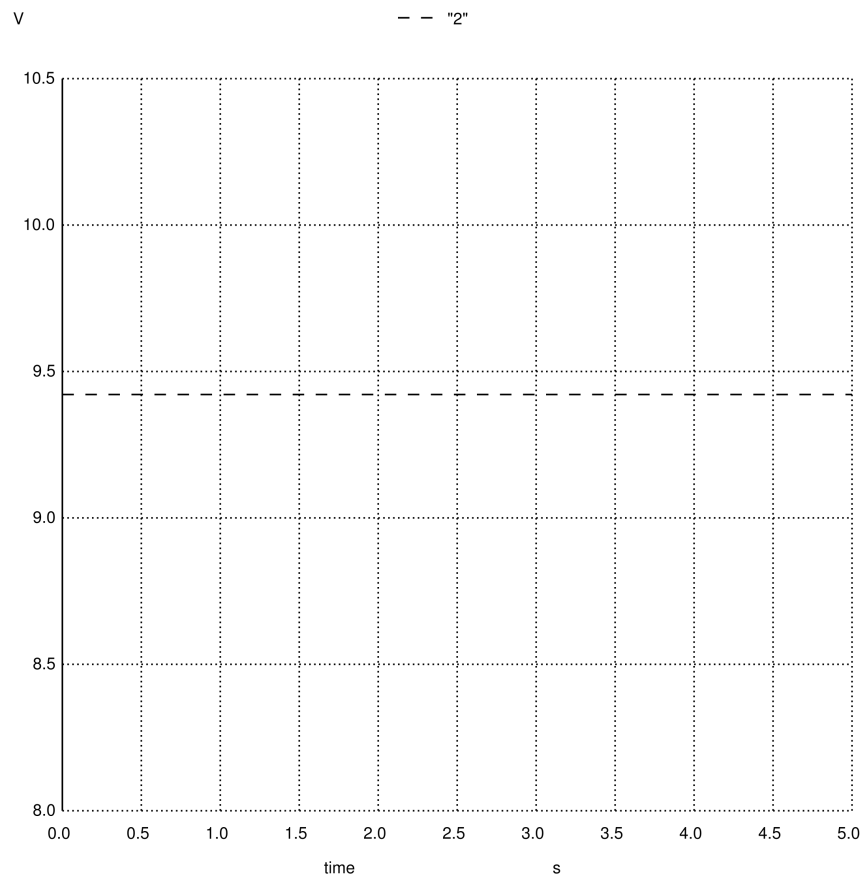


Figure 2.3: Grafiks no ngspice (2)

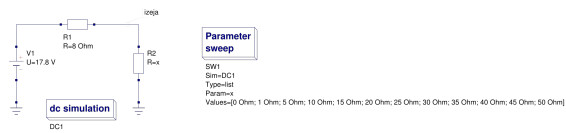


Figure 2.4: Principia shma

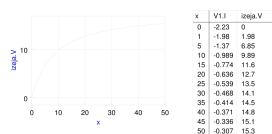


Figure 2.5: Tabula un grafiks

Bibliography

- [1] Andrejs Strauts. Elektrotehnikas teortiskie pamati, lekciju konspekts. Rga, RTU, 2008, -197 lpp.
- [2] Krlis Brvkalns. u teorija. Vadonis u teorijas studijm: praktisks nodarbības, laboratorijas darbi, MatLab programmas, PSpice pielietojums. Rga, RTU, 2008, - 93 lpp.