Vienkru elektrisku shmu modelana

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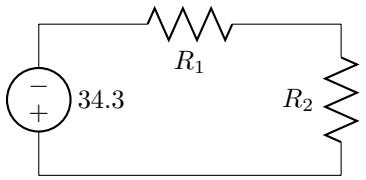
Chapter 1

Teortisk daa

1.1 des aprins

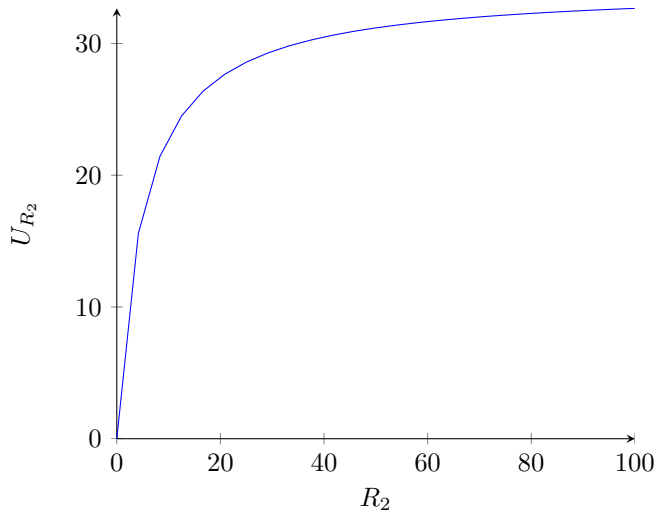
Formulas: $U_{R_1} = V_1 * R_1/(R_1 + R_2)$
$U_{R_2} = V_1 * R_2/(R_1 + R_2)$

Shmu zmjot, izmantoju pgfplots paku [**?**]



R_1	5
R_2	4
V_1	34,3
U_{R_2}	19,06
U_{R_1}	15,24

Table 1.1: Tabula ar datiem [**?**]


30
20
10
0
U_{R_2}
0
20
40
60
80
100
R_2

Chapter 2

Praktisk daa

2.1 Darbs ar GEDA programmm

2.1.1 darbs ar gschem

```
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  <View=0,47,800,773,1,0,0>
  <Grid=10,10,1>
  <DataSet=02.dat>
  <DataDisplay=02.dpl>
  <OpenDisplay=1>
  <Script=02.m>
  <RunScript=0>
  <showFrame=0>
  <FrameText0=Title>
  <FrameText1=Drawn By:>
  <FrameText2=Date:>
  <FrameText3=Revision:>
</Properties>
<Symbol>
</Symbol>
<Components>
  <Vdc V1 1 120 280 18 -26 0 1 "34.3 V" 1>
  <R R1 1 270 150 -26 15 0 0 "5 Ohm" 1 "26.85" 0 "0.0" 0 "0.0" 0 "26.85" 0 "european" 0>
  <GND * 1 120 390 0 0 0 0>
  <GND * 1 410 390 0 0 0 0>
  <.DC DC1 1 190 380 0 46 0 0 "26.85" 0 "0.001" 0 "1 pA" 0 "1 uV" 0 "no" 0 "150" 0 "no" 0 "n
  <IProbe Pr1 1 180 150 -26 16 0 0>
  <R R2 1 410 280 15 -26 0 1 "x" 1 "26.85" 0 "0.0" 0 "0.0" 0 "26.85" 0 "european" 0>
  <.SW SW1 1 600 110 0 77 0 0 "DC1" 1 "lin" 1 "x" 1 "5 Ohm" 1 "50 Ohm" 1 "10" 1>
</Components>
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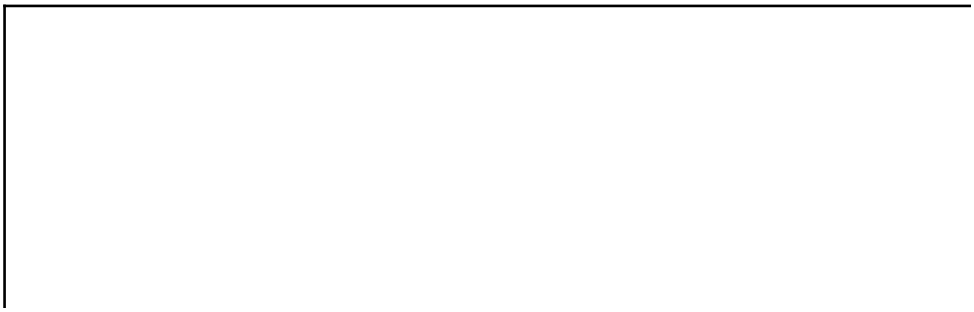

Figure 2.1: GEDA izveidota shma

```
<Wires>
  <120 150 120 250 "" 0 0 0 "">
  <300 150 410 150 "izeja" 410 90 54 "">
  <410 150 410 250 "" 0 0 0 "">
  <120 310 120 390 "" 0 0 0 "">
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  <120 150 150 150 "" 0 0 0 "">
  <210 150 240 150 "" 0 0 0 "">
</Wires>
<Diagrams>
</Diagrams>
<Paintings>
</Paintings>
```

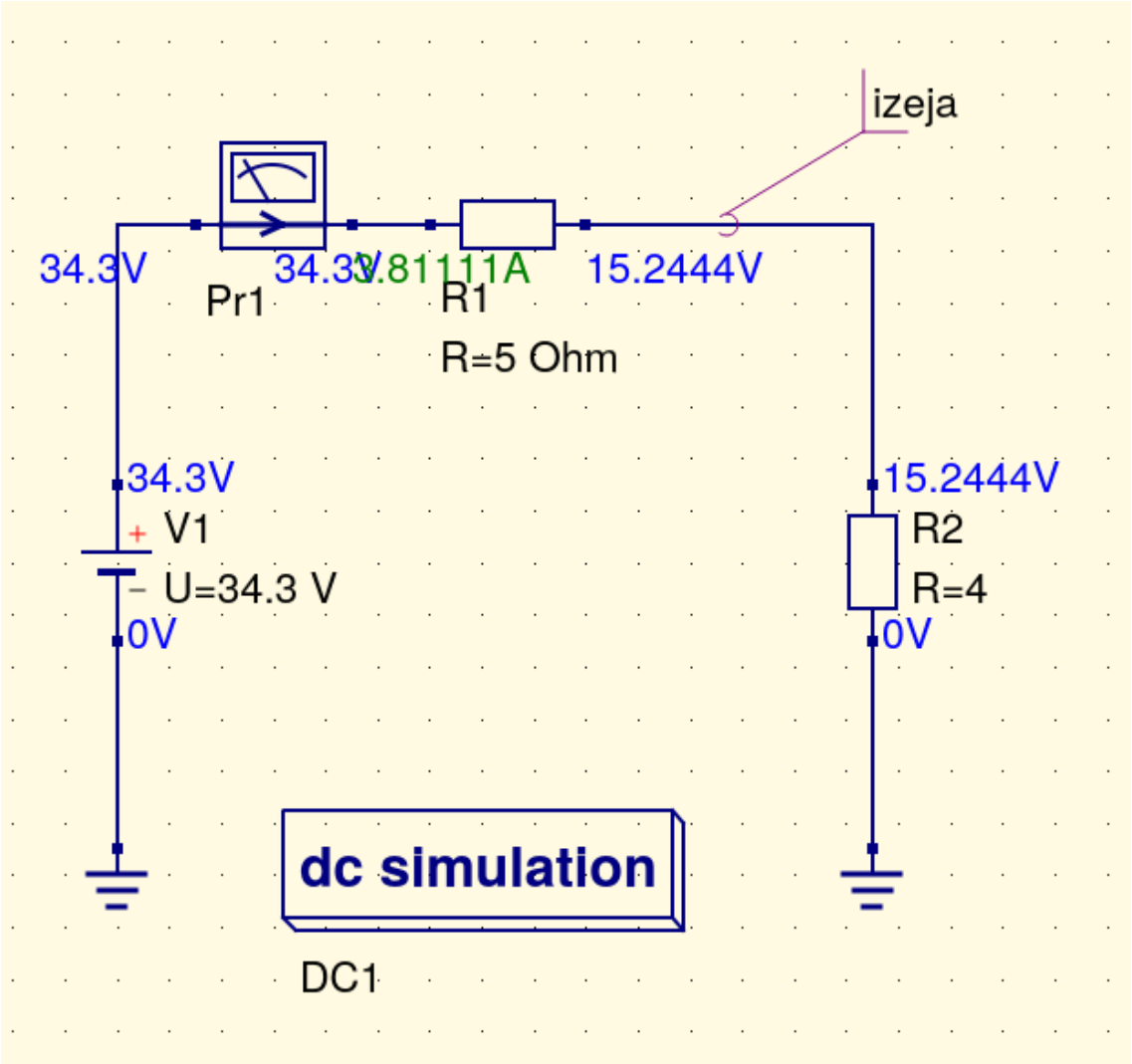

Figure 2.2: QUCS izveidota shma un simulcija

2.1.2 darbs ar gnetlist

2.1.3 darbs ar ngspice

2.2 Darbs ar QUCS programmm

2.2.1 Principla shma un ldzstrvas simulcijas (DC simulation) grafiks

2.2.2 Sweep simulcijas grafiks un tabula

x	V1.I	Pr1.I	izeja.V
5	-3.43	3.43	17.1
10	-2.29	2.29	22.9
15	-1.72	1.72	25.7
20	-1.37	1.37	27.4
25	-1.14	1.14	28.6
30	-0.98	0.98	29.4
35	-0.858	0.858	30

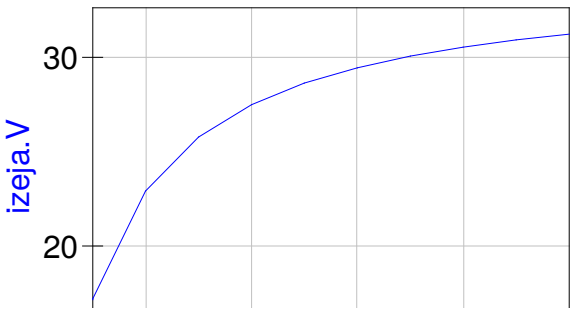

Figure 2.3: Sweep simulcijas grafiks un tabula

Bibliography

[1] http://texdoc.net/texmf-dist/doc/latex/circuitikz/circuitikzmanual.pdf

[2] https://edx2.etf.rtu.lv/access/lessonbuilder/item/1882/group/1f923de4-2ba4-4a1d-8cb6-41ede04eea49/Weeks