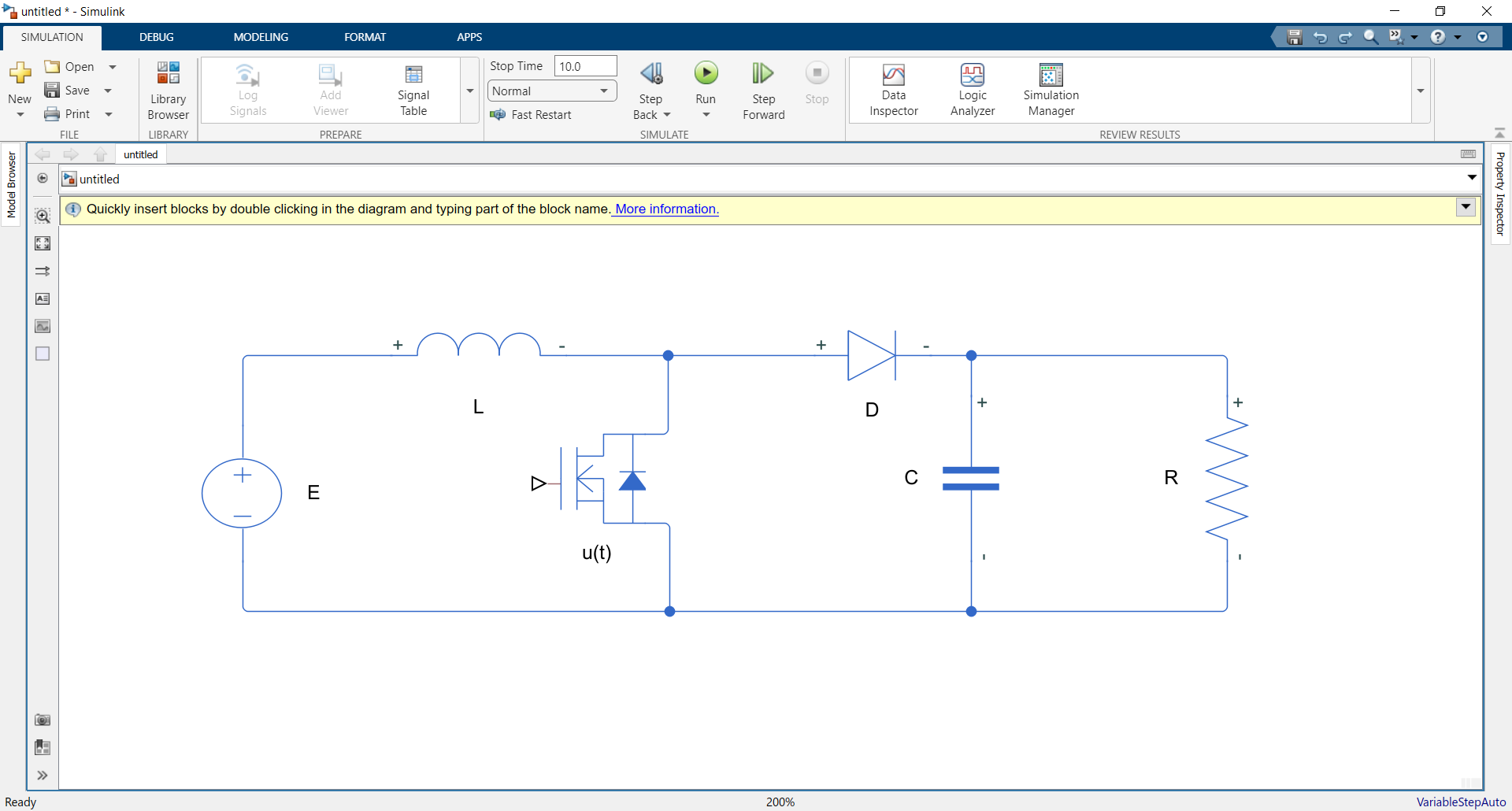
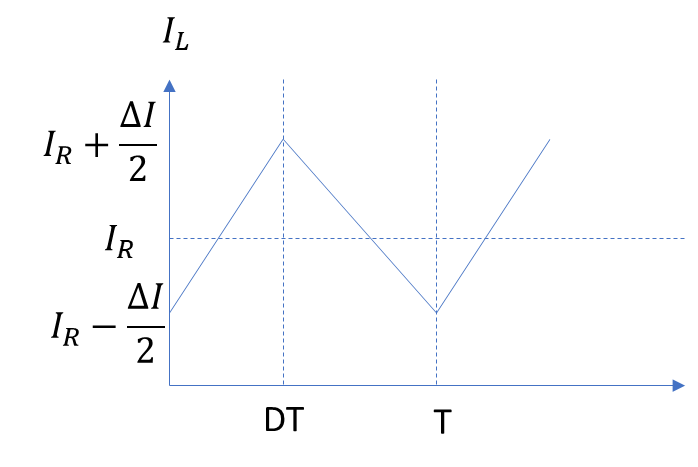
Kovalev V.

Design of a boost converter of 24V to 80V using sliding mode technique.



Let’s power = 64W =>   
On the on state:

Such as it is boost converter: . And let ,

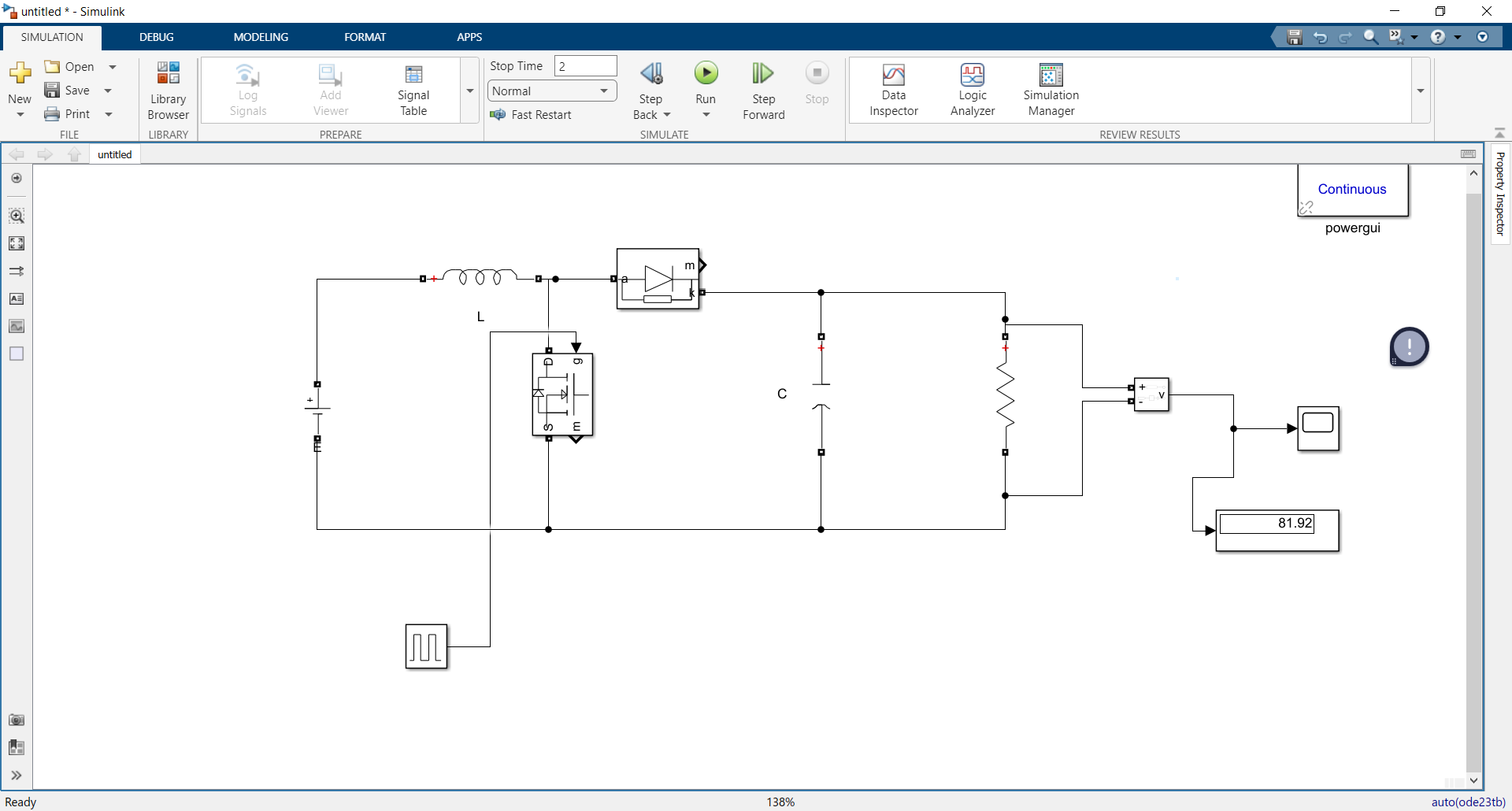
We know that all DC current ideally goes to resistor =>

Considering continues mode:

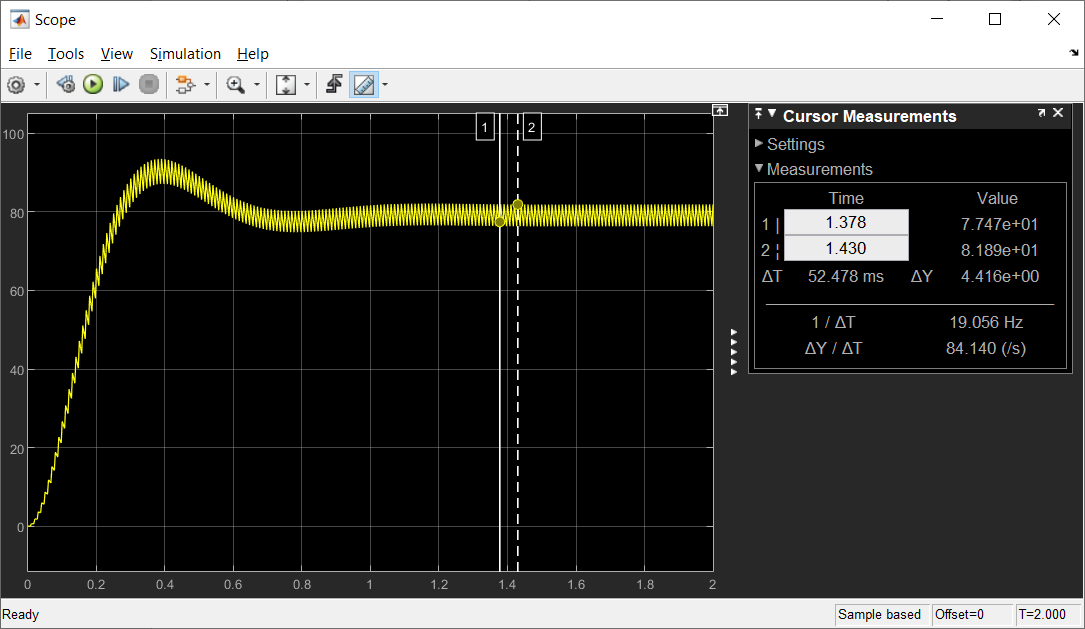
Let’s

Summing up:

Simulation:



Result:



You can see reaple: (I calculated 7%)

Construction of sliding mode technique:

On state:

Off state

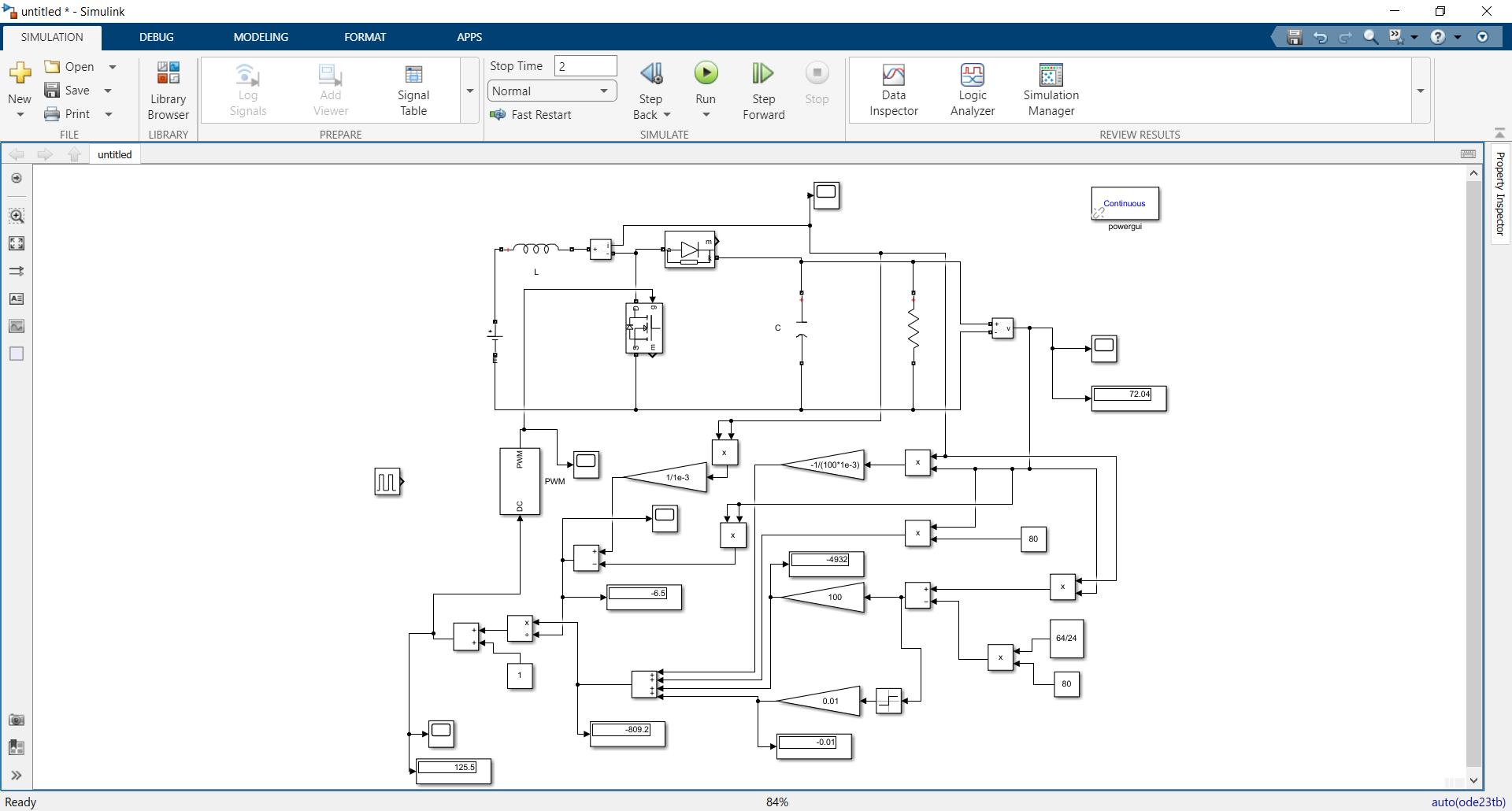
Summing up

Where - switch function – {off state, on state}

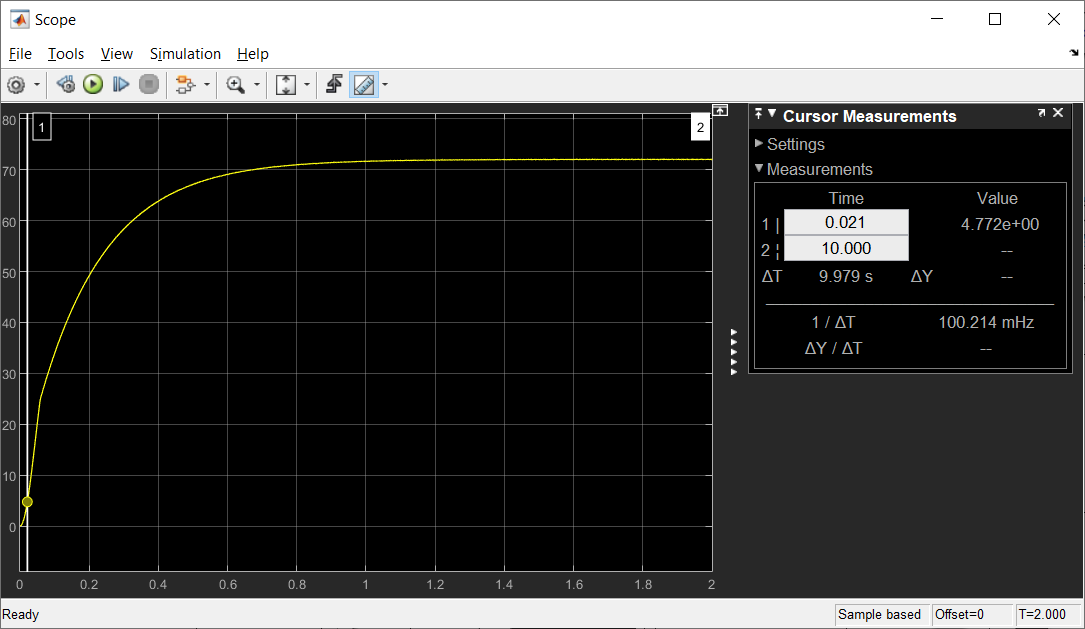
Substitute

Consider:

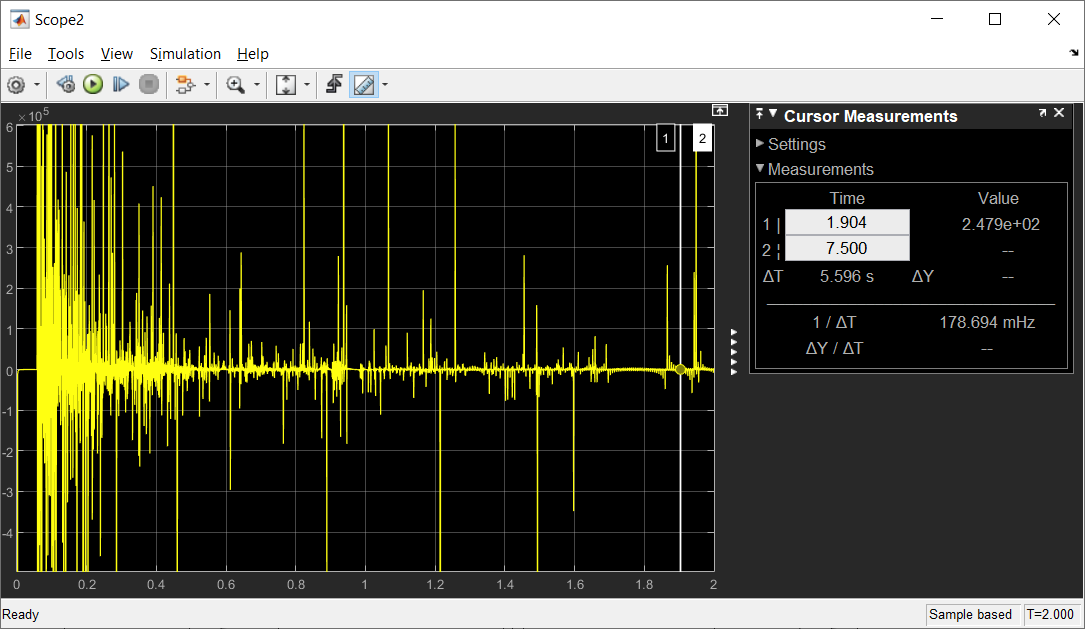
Unfortunately I am not in electronic at all so I don’t know how to contract such scheme in electronic components so I constructed it schematically.



So goes to PWM and controls transistor.()



It is output voltage always goes to 72, but I need 80, don’t know where is the problem.

Bellow you can see   


**Current():** 