# HOW TO USE THE APPLICATION "SCILAB-SS-DC-RESPONCE"

This is a Special Software to Predict the First Order Dynamic Circuit Steady State DC Response within a Limited Set of Experimental Data. It is made through Scilab software. Scilab is an open-source alternative of MATLAB. More information about the Scilab can be found here: https://www.scilab.org/

It is part of a scientific work entitled "A Special Software to Predict the First Order Dynamic Circuit Steady State DC Response within a Limited Set of Experimental Data", with authors Denitsa DARZHANOVA, Iosko BALABOZOV and Petar DARJANOV. The work is presented in 22nd International Symposium on Electrical Apparatus and Technologies SIELA 2022 (https://siela.tu-sofia.bg/) and will be published in IEEE Xplore Digital Library (https://ieeexplore.ieee.org/).

## What is this app for?

The main function of this software is making possible reduction of the time for experimental work by processing only a set of data at the initial stage of the transient process, by direct use of the Least Square Method. This leads to substantial reduction of both experimental time and corresponding energy resources. A detailed description of the mathematical model, as well as a detailed description and exemplary implementation of the method can be found in:

[1] Darjanov P., D. Darzhanova, „Steady state transient response evaluation of a first order dynamic circuit on a ground of short series experimental data", XX-th International Symposium on Electrical Apparatus and Technologies (SIELA 2018), 3-6 June 2018, Bourgas, Bulgaria, pp.49-50

[2] Darzhanova D., Z. Gergova, P. Darjanov, Electrical coil thermal parameters determination by express experimental data processing, XVI-th International Conference on Electrical Machines, Drives and Power Systems ELMA 2019, 6-8 June 2019, Varna, Bulgaria, pp. 33-36

## How to use it?

- **Step 1**: Download and install **Scilab** software: https://www.scilab.org/
- **Step 2**: Start **Scilab**, and you will se the main windows of the software. Click on *Applications menu* and start *Module manager – ATOMS*. Then find *GUI Builder* and install it.
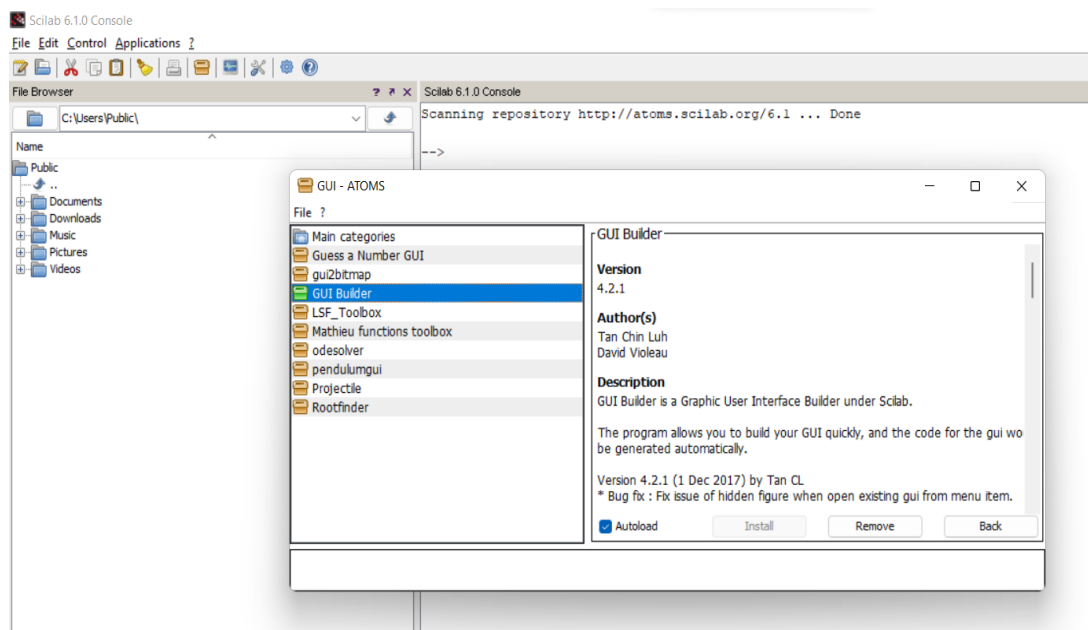


- **Step 3**: Restart the **Scilab**
- **Step 4**: When **Scilab** load again, open **SciNotes** from here:

Click SciNotes icon
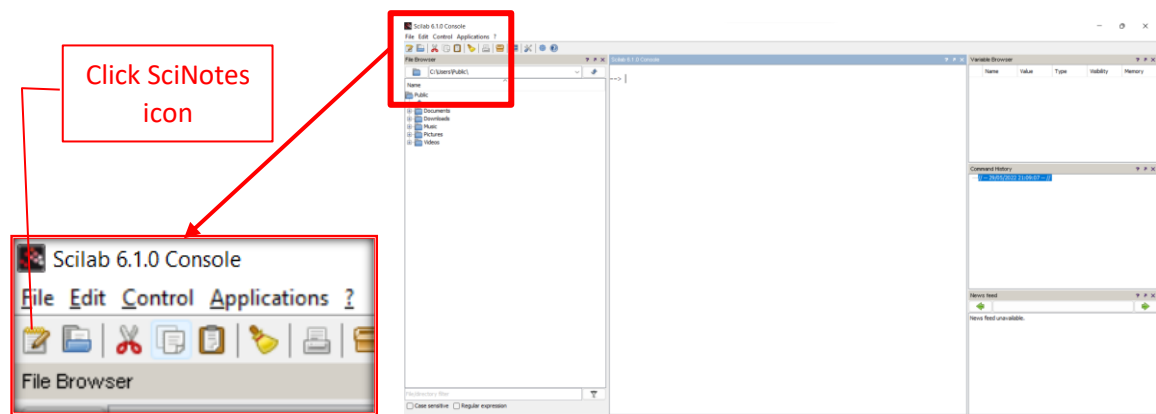
You should see main windows of SciNotes:
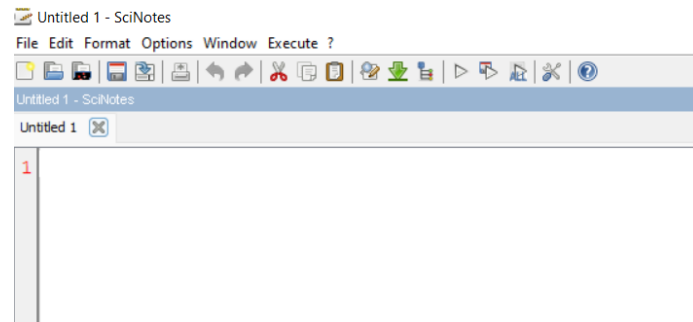


- **Step 5**: Copy the source code for the "Scilab-SS-DC-Responce" application from here: https://github.com/ibalabozov/Scilab-SS-DC-Responce/blob/main/Scilab-SS-DC-Responce_v1.0.sce and paste it to the **SciNotes**.
- **Step 6**: Save your **SciNotes** file and click "**Execute**" button to start the application:
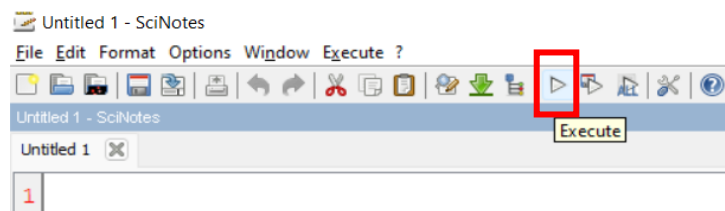


Now you should view the GUI windows of the "Scilab-SS-DC-Responce" application: