

# NPS High Voltage Channel Initialization GUI

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## NPS High Voltage Channel Initialization GUI

I developed a Python program to generate a graphical user interface (GUI), using the *tkinter* Python package, and set the parameters for all channels of all CAEN high voltage modules used for NPS. The GUI, Fig. 1, has input fields for each of the CAEN high voltage parameters: maximum voltage, set voltage, ramp down, ramp up, set current limit, and time over threshold. The purpose of the GUI is to provide users the ability to set the parameters for all channels of all high voltage modules to the same value and save the values to a text file. If a user wants to change the value of a single parameter for a single channel they would have to do this through the high voltage monitoring EPICS screen.

When opened, all of the input fields are blank. The user must input a value in an input field and click the submit button for a value change to take effect. Only those fields which have a value present will be saved to the text file, Fig. 2 (e.g., if the user inputs only a new value for the set voltage the text file will only show that field and its value).

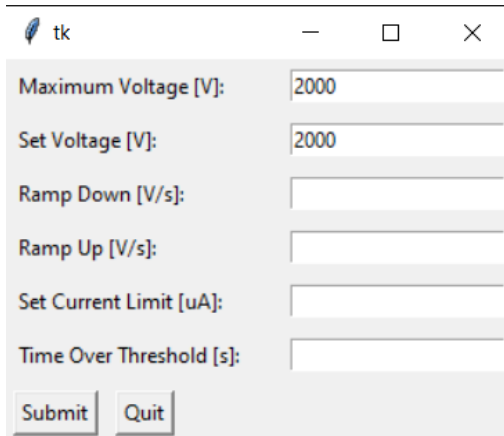
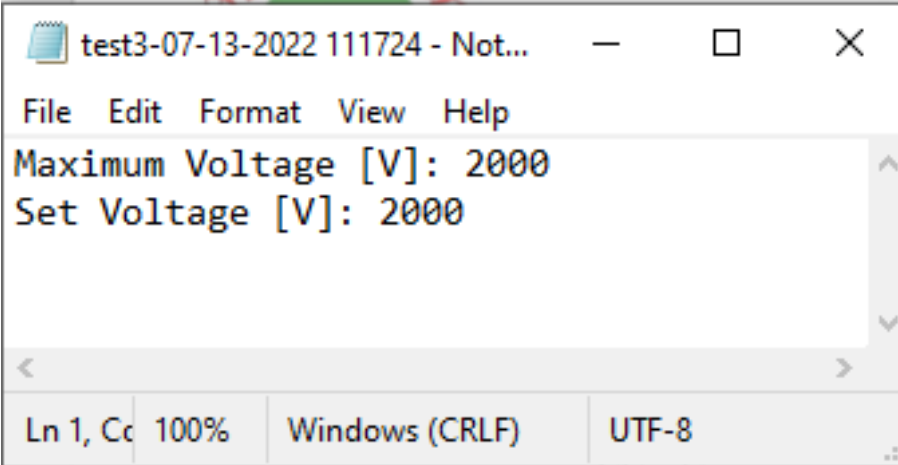


FIG. 1. Screenshot of Python GUI with user input values

- **Developed a Python program to generate a high voltage settings GUI and set high voltage parameters**
- **GUI has input fields for all CAEN high voltage parameters**
- **Value changes are saved to a text file with the date and time in the filename**

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Once the user presses the submit button, the new values are sent to all channels of all high voltage modules using the EPICS Python package. Only parameters for which a value has been input will receive a command to set the parameters to the new value (e.g., if no value was submitted for a parameter, that parameter will remain at its current value).



```
test3-07-13-2022 111724 - Not...
File Edit Format View Help
Maximum Voltage [V]: 2000
Set Voltage [V]: 2000
Ln 1, Col 1 100% Windows (CRLF) UTF-8
```

FIG.2. Screenshot of text file containing the parameters for which input values were provided and the new values.