Instruction of the program for computing the parameters of the modified P2D model

1. Run the program for computing the parameters of the modified P2D model before running the program for computing the outputs of the modified P2D model.

2. Set the 23-dimensional space for searching for the values of the parameters of the modified P2D model in Line 7-Line 29 and then narrow the 23-dimensional space for searching for the parameters of the modified P2D model in Line 96 and Line 190. In other words, set the ranges of the parameters of the modified P2D model in Line 7-Line 29 and then narrow the ranges of the parameters of the modified P2D model in Line 96 and Line 190.

3. Set the values of the parameters of the algorithms for computing the parameters and outputs of the modified P2D model in Line 30-Line 39 and the address of the file for storing the computed parameters of the modified P2D model in Line 397. Each column in the file for storing the computed parameters of the modified P2D model is a set of the computed parameters of the modified P2D model. The number of the columns in the file for storing the computed parameters of the modified P2D model equals to b_{set} in Line 31.

4. Load the average Li-ion battery load current, instantaneous Li-ion battery load current and Li-ion battery inter-electrode potential for computing the parameters of the modified P2D model and the time length of the average Li-ion battery load current, instantaneous Li-ion battery load current and Li-ion battery inter-electrode potential for computing the parameters of the modified P2D model in Line 41-Line 44.

5. Choose the parallel environment for computing the parameters of the modified P2D model and set the process number or thread number for computing the parameters of the modified P2D model in Line 3-Line 4. When set the process number or thread number for computing the parameters of the modified P2D model, it should be ensured that b_{set} in Line 31 can be divided by the process number or thread number for computing the parameters of the modified P2D model.