Instructions file to run the python program and generate the results

Tanks-in-Series Python Code Dissemination

Note: All the results discussed in the article is based on the executable generated using SUNDIALS-IDA C-program DAE solver. It is an executable file that reads the parameters from the external text file. The chemistry of the model can't be changed in executable file. The code dissemination of this work is shared based on the TiS model simulation performed using PyBaMM's inbuilt CasADi solver. The Python code has facility to change the OCV data/expressions, parameters, and other constitutive expressions based on the chemistry of the cell under the study for simulation.

PyBaMM webpage: https://www.pybamm.org/

In the directory, "**Code_Dissemination_Python**" there are two files:

Both files are for simulating the Tanks-in-Series model using PyBaMM's inbuilt solver.

File 1: **PyBaMM_TiS_Simulation.py**

This file contains python code to simulate the Tanks-in-Series model. Comments are added wherever relevant.

File 2: **tank_in_series_pybamm.ipynb**

This is an ipynb file that can be opened in Jupyter notebook/Lab. File 1 and 2 are the same, both formats are provided for convenience.

Note: In the future, python codes for solving the model using an external solver and codes for parameter estimation in Python will be updated.