Directory: solar\_test

Description: The files, inside the solar\_test directory, are presented below. Some of the items in the directory are directories themselves. To go into a directory or the file, click on the \* on the right.

|  |  |
| --- | --- |
| solar\_output | [\*](#solar_output_directory) |
| caiso\_load\_070114\_063015.csv |  |
| GenParamsFun.dat |  |
| hyperrectangle\_names\_1source.dat |  |
| no\_segmentation.txt |  |
| raw\_solar.csv |  |
| ReferenceModel.py |  |
| run\_populator\_solar\_caiso.txt | [\*](#run_populator_solar_caiso_dir) |
| run\_scenario\_creator.txt | [\*](#run_scenario_creator_dir) |
| segment\_solar.txt |  |
| simple\_nostorage\_skeleton.dat |  |
| solar\_data.csv |  |
| solar\_upperbound\_SP15\_070113\_063015.csv |  |
| sources.csv | [\*](#sources_dir) |
| TreeTemplate.dat |  |
| Upper\_bound\_Solar\_actual\_forecast\_total\_070114\_063015.csv |  |

run\_populator\_solar\_caiso.txt

Description: run\_populator\_solar\_caiso.txt file is used to start the program. Below are all the files that the text file calls upon. To learn about the location of these files, click on the \* on the right. Note that the name “solar\_output” is a name in which the user can change in this text file.

|  |  |
| --- | --- |
| solar\_output | [\*](#solar_output) |
| run\_scenario\_creator.txt | [\*](#run_scenario_creator) |
| sources.csv | [\*](#sources) |
| solar\_upperbound\_SP15\_070113\_063015.csv | [\*](#solar_upperbound_SP15_070113_063015) |
| GenParamsFun.dat | [\*](#GenParamsFun) |

Note: To go back to the solar\_test directory, click on this [\*](#Directory_solar_test)

To explore the contents of run\_populator\_solar\_caiso.txt, click on [\*](#Contents_of_run_populator_solar_caiso)

Contents of run\_populator\_solar\_caiso.txt

command/exec populator.py

--start-date 2015-01-01

--end-date 2015-06-30

--load-scaling-factor=0.045

--output-directory solar\_test/solar\_output

--scenario-creator-options-file solar\_test/run\_scenario\_creator.txt

--sources-file solar\_test/sources.csv

--allow-multiprocessing 0

--diurnal-pattern-file solar\_test/solar\_upperbound\_SP15\_070113\_063015.csv

--number-dps 4

--dps-paths-file solar\_test/GenParamsFun.dat

--traceback

run\_scenario\_creator.txt

Description: The run\_scenario\_creator.txt is the file where the user can personalize scenarios to their desire. The objects in the table are the files that the run\_scenario\_creator.txt calls on to execute its task. To learn more about the location of these files click on the \* on the right.

|  |  |
| --- | --- |
| sources.csv | [\*](#sources) |
| output\_scenario\_creator |  |
| hyperrectangle\_names\_1source.dat | [\*](#hyperrectangle_names_1source) |
| GenParamsFun.dat | [\*](#GenParamsFun) |
| daps |  |
| simple\_nostorage\_skeleton.dat | [\*](#simple_nostorage_skeleton) |
| TreeTemplate.dat | [\*](#TreeTemplate) |

Note: The file “daps” is a directory one above solar\_test. To go back to our solar\_test directory, click on this symbol [\*](#Directory_solar_test)

To explore the contents of run\_scenario\_creator.txt, click on [\*](#Contents_of_run_scenario_creator)

Contents of run\_scenario\_creator.txt

To go back to run\_scenario\_creator.txt click on [\*](#run_scenario_creator_dir)

command/exec scenario\_creator.py

# Options regarding file in- and output:

--sources-file solar\_test/sources.csv

--output-directory solar\_test/output\_scenario\_creator

--hyperrectangles-file solar\_test/hyperrectangle\_names\_1source.dat

--dps-file solar\_test/GenParamsFun.dat

--daps-location ../daps

--scenario-template-file solar\_test/simple\_nostorage\_skeleton.dat

--tree-template-file solar\_test/TreeTemplate.dat

# General options:

--scenario-day 2014-07-01

# Options regarding the univariate epi-spline distribution:

--seg-N 20

--seg-kappa 100

--probability-constraint-of-distributions 1

--non-negativity-constraint-distributions 0

--nonlinear-solver ipopt

--error-distribution-domain 4

# Options regarding all distributions:

--plot-variable-gap 10

--plot-pdf 0

--plot-cdf 0

--cdf-inverse-tolerance 1.0e-3

sources.csv

Description: The excel file, sources.csv, contains five items with each item ending with a comma. In Linux, the commas are visible, but when the files are transferred to a Windows computer, the commas get lost. The files listed in the boxes are all the items that the sources.csv calls upon.

|  |  |
| --- | --- |
| solar\_data.csv |  |
| segment\_solar.txt |  |
| caiso\_load\_070114\_063015.csv |  |
| no\_segmentation.txt |  |

Note: To go back to the solar\_test directory, click on this [\*](#Directory_solar_test)

Contents of sources.csv

|  |  |  |  |
| --- | --- | --- | --- |
| NocalSolar | solar\_test/solar\_data.csv | solar | solar\_test/segment\_solar.txt |
| Load | solar\_test/caiso\_load\_070114\_063015.csv | load | solar\_test/no\_segmentation.txt |

Output Directory: solar\_output

Under the output directory, another directory exists. To explore this directory, click on the \*.

|  |  |
| --- | --- |
| pyspdir\_twostage | [\*](#pyspdir_twostage) |

To go back to the location of the solar\_output directory, click here [\*](#solar_output)

Output Directory: pyspdir\_twostage

The output directory contains another set of directories labeled with dates. Each date represents the simulations created by the program.

|  |  |
| --- | --- |
| 2015-01-01 | [\*](#numbers) |
| 2015-01-02 |  |
| 2015-01-03 |  |
| 2015-01-04 |  |

Because all the output directories are organized similarly by the program, we will only explore the first directory. To go back to the location of the solar\_output directory, click here [\*](#solar_output)

Output Directory: 2015-01-01

The output directory contains data files that correlate with each wind-power scenario. Most importantly, the location contains another directory that contains all the plots.

|  |  |
| --- | --- |
| plots | [\*](#Plots) |
| Scenario\_actuals.dat |  |
| Scenario\_forecasts.dat |  |
| Scenario\_quickhigh\_diverse1.dat |  |
| Scenario\_quickhigh\_diverse2.dat |  |
| Scenario\_quickhigh\_diverse3.dat |  |
| Scenario\_quickhigh\_diverse4.dat |  |
| Scenario\_quicklow\_diverse1.dat |  |
| Scenario\_quicklow\_diverse2.dat |  |
| Scenario\_quicklow\_diverse3.dat |  |
| Scenario\_quicklow\_diverse4.dat |  |
| scenarios.csv |  |
| ScenarioStructure.dat |  |
| ScenarioTemplate.dat |  |

To go back to the location of the solar\_output directory, click on [\*](#solar_output)

Output Directory: Plots

The output directory contains a visual representation of our results. There are 8 individual graphs while the final graph contains the overlapping of the other 8 graphs, Forecast data, and Actual data.

|  |  |
| --- | --- |
| NocalSolar.png |  |
| NocalSolar\_quickhigh\_diverse1.png |  |
| NocalSolar\_quickhigh\_diverse2.png |  |
| NocalSolar\_quickhigh\_diverse3.png |  |
| NocalSolar\_quickhigh\_diverse4.png |  |
| NocalSolar\_quicklow\_diverse1.png |  |
| NocalSolar\_quicklow\_diverse2.png |  |
| NocalSolar\_quicklow\_diverse3.png |  |
| NocalSolar\_quicklow\_diverse4.png |  |

To go back to the location of the solar\_output directory, click here [\*](#solar_output)

An example of the graph is shown below:

