



Technische Universität Berlin
Faculty VII (Economics and Management)
Workgroup for Infrastructure Policy (WIP)

Operations Research – Coding Lab

Homework 5

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Homework 5

Add the code for each homework task below the lecture code. This allows you to use already generated/calculated data etc.

Exercise 1 - Axis Labels

- i) In the lecture, a surface plot was created for the power outputs. However, if you take a close look, it does not have any axis labels.
- ii) Add the correct labels on the x, y, and z axis and change the figure resolution to 1000x500.
- iii) Hint: Note that `Axis()` is intended for 2D, however there exists an equivalent approach for 3D, which you may find in the documentations.

The resulting plot should look similar to the following:

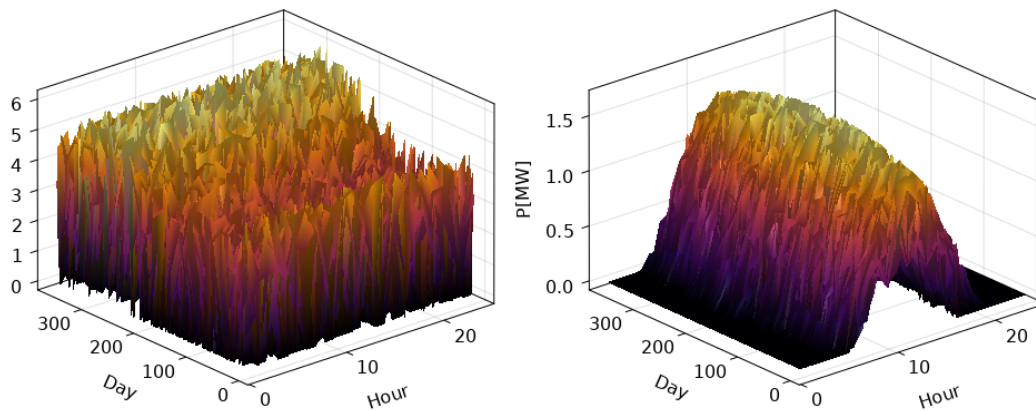


Figure 1: Plot for task 1.

Exercise 2 - Scatter Plots

- a)
 - i) Find and plot the daily average of wind and solar outputs as a scatter plot.
 - ii) The markers should use the same colors for generation modes as in the lecture.
 - iii) Visualize the mean of daily averages using a dashed red line and give correct axis labels.
 - iv) Hint: You should consult the documentation and examples to check out scatter plots.
- b)
 - i) Check out the layout tutorial (<https://makie.juliaplots.org/stable/tutorials/layout-tutorial/>) and create two density plots (using `density!()`) to the right of wind and solar daily averages.
 - ii) Plot a legend in the middle below both plots.

The resulting plot should look similar to the following (*note that data should not match the plot exactly*):

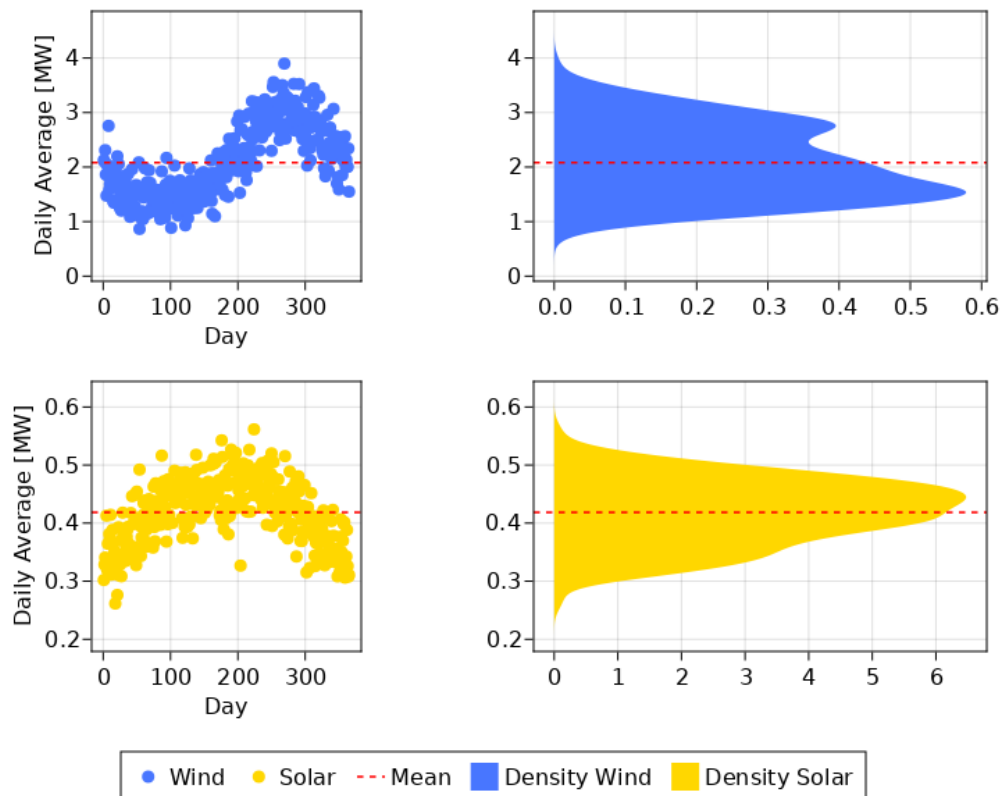


Figure 2: Plot for task 2.