Power Forecasting and Control discussion notes

1 Notes on current work flow

- Fit and simulate the model for shorter periods of 6hr, 24hr and compare parameters and behavior.
- Fit and simulate model without the term $p_t(1 - p_t)$ and compare parameters and behavior. Check if it is necessary.
- Find a way to prove that the optimization problem is indeed convex in the parameters of the SDE if possible.
- Reasoning why the sensitivity in the parameter α is much higher than the parameter θ, ellipse suggests that a linear combinations of the two parameters α, θ_0 seem to be equivalent. Visually, we can also see by trying out parameters, that certain combination of α and θ_0 seem to be indeed very similar to other combinations.

2 Notes on future work

- Consider regime switching to detect human energy management decisions.