

Peer Review №3: OMS on Koopman

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1. **Reproducibility of results.** We ran the notebook with examples for koopmanAE and obtained the same results as the authors, so it means that the results are reproducible. We also tried some other hyperparameters of the algorithms in this section. As for `from_fourier_to_koopman` the `examples.py` file is lacking explanation of what results should be obtained. Moreover, the first run failed with some mistakes in `from_fourier_to_koopman/fourier_koopman/fourier.py` file.
2. **Results Description.** As we already mentioned, the results were obtained only for koopmanAE part. Our first plot strongly differs from the one located in the original repository [here](#) despite it was obtained by launching the same files with the same set of parameters (most important one is the size of bottleneck). According to our results, the consistent Koopman AE showed worse performance than the baseline one - the prediction error grew faster. At the same time in the original repository the prediction error for consistent Koopman AE was several magnitudes less than for baseline one. However the team tried another hyperparameter, which gave them better results but still worse than the original one.
3. **Real-world use cases.** The project is rather well-structured and partially documented. It has a simple and easy-to-follow structure. However it lacks the information (and it seems the implementation) of how to use Spectral methods for Long-term Forecasting. In our opinion the reasons of diverging from the original repository results for koopmanAE should be established and fixed. So in result we can't see any applications for this project now as it is far from being complete. It requires at least debugging and adding more information for spectral methods for long-term forecasting. After these tasks would be performed, we think that these project can be used for further research purposes as a baseline and a framework for adding new experiments.