**README: Lorenz-Attractor**

This Readme file contains information about how to replicate the experiments for the Lorenz Attractor.

The folder *Lorenz\_Attractor* contains the following files:

* Lorenz3D\_GPLSTM.py: Trains GPLSTM to make predictions and saves results
* Lorenz3d\_read\_results.py: Plots the results obtained by Lorenz3D\_GPLSTM (Fig 4.8)
* Lorenz3D\_propagation.py: Propagates one step ahead predictions by training and predicting all 3 dimensions in parallel using MPI and saves Results.
* Lorenz3D\_prop\_read\_results.py: Plots the Results saved by Lorenz3d\_propagation.py (Fig 4.6/4.7)

*1.Lorenz Attractor: Propagating one step ahead predictions (Chapter 4.3.1)*

Run **Lorenz3D\_propagation.py** by specifying n\_steps and n\_samples. The results are saved and can be read by running **Lorenz3D\_prop\_read\_results.py.** This generates the plots Fig 4.6/4.7.

*1.Lorenz Attractor: Comparison between n-step ahead predictions (Chapter 4.3.2)*

Run **Lorenz3D\_GPLSTM.py** and specify the future shift n. This saves the results and they can be plotted by running **Lorenz3d\_read\_results.py** by reading the corresponding results file. This generates the plots in Fig. 4.8.