F10.7 INDEX FORECASTING USING THE DEEP-LEARNING N-HiTS MODEL

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The daily F10.7 index as a measure of solar radio flux at 10.7 cm wavelength is an important parameter which is widely used in different thermosphere and ionosphere models.

In this study, we fitted a deep-learning N-HiTS model to make 7-day up forecasts using 30-day historical data. This technique has demonstrated highly effective multi-horizon forecasting (up to 7 days) compared to other forecasting models. The short time of model learning allows us to retrain it regularly on new data and make a better daily forecast. We have organized a regular F10.7 forecast based on the N-HiTS model which is available at the website https://forecasting.simurg.space.