UPGRADING QNPY: MODELLING QUASAR LIGHT CURVES IN LARGE SURVEYS

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We build on the LSST-SER-SAG- S1 team's QNPy (modeling Quasar time series with Neural processes in Python) by integrating Self- Organizing Maps (SOMs) and Attentive Latent Neural Processes to offer a computationally efficient and reliable package to model quasar variability. Harnessing the power of SOMs for clustering and Attentive Latent Neural Processes for features sampled from within the latent space, we present the pilot results of our analysis on several large surveys from the Optical and X-ray bands including the LSST AGN Data Challenge, Gaia, ZTF, and Swift Surveys.