

RUBIN IN-KIND HALF YEAR UPDATE ON
DEVELOPMENT OF TIME DOMAIN PIPELINE
FOR PERIODICITY SEARCHING

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A time-domain pipeline for the Vera C. Rubin Legacy Survey of Space and Time (LSST) data periodicity mining is the subject of our directable software inkind contribution.

The pipeline will be used to support the development of scientific collaboration infrastructure for the recipients of the LSST Active Galactic Nuclei (AGN) and Transient and Variable Stars (TVS) scientific collaborations. The outputs of the pipeline are the extracted light curve periodic features (periodicities, uncertainties, and periods likelihood), which will be used by the AGN and TVS SC for their variability investigation. Within the pipeline, at least four different time domain techniques will be implemented. The pipeline will also include (non)

parametric modeling of LSST light curves, and statistical probability on the identified periodicities.

As the pipeline is developed (between January 2022 and June 2022), here we provide half year periodic updates.