Abstract Submitted
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Studying the Population of Variable Objects in the Dark Energy Survey[1] JENNIFER LOCKE, University of Pennsylvania, DARK ENERGY SURVEY COLLABORATION — It has been proven that locating variable stars such as quasars and RR Lyrae can be very helpful for observational cosmology, such as probing galaxy evolution and mapping black hole growth, and locating low-luminosity dwarf satellites in the Milky Way, respectively. We want to use the LombScargle periodogram to implement an algorithm to locate variable stars, which could help the Large Synoptic Survey Telescope (LSST) to discover more objects when it opens in the early 2020s. Dark Energy Survey (DES) data can often sample data unevenly in time, so we need to test the periodogram's reliability. We aim to implement an algorithm that can build statistical samples of different types of variable stars in DES and LSST data, and to find the best method of implementation through simulation testing.

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