

## A Large Scale Search for Photometric Variability in Dwarf Galaxies Using the Young Supernova Experiment

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We conduct an analysis of over 60,000 dwarf ( $7 < \log M_*/M_\odot < 10$ ) galaxies in search of photometric variability indicative of active galactic nuclei (AGN). Using data from the Young Supernova Experiment and the PanSTARRS telescopes, we construct light curves for each of the galaxies in up to five bands where available. We fit each light curve to a damped random walk, whose fit significances are used to select for AGN. We also fit for a dampening timescale. From these candidates, we apply additional selection criteria until we reach a satisfactory confidence in the results. Finally, we analyze the spectra of these dwarf AGN candidates to measure various emission lines and estimate black hole mass.

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