**Developing a Transient Identification Pipeline for DESI Using Machine Learning**[1] AMANDA WASSERMAN, VASHISTH TIWARI, SEGEV BENZVI, University of Rochester, THE DARK ENERGY SPECTROSCOPIC INSTRUMENT COLLABORATION — Over the next five years, the Dark Energy Spectroscopic Instrument (DESI) will carry out a massive redshift survey of 35 million galaxies and quasars, mapping the large scale structure of the universe out to a redshift of 3. During the DESI survey we expect to find galaxies that host bright transients such as supernovae, tidal disruption events (TDEs), and compact binary mergers. The identification of transients is important not only to ensure correct estimates of the host redshifts, but also because it provides an opportunity to obtain serendipitous spectra of the transients themselves. Spectroscopic classification is the gold standard in the categorization of transients, making these discoveries invaluable when combined with data from large photometric surveys. We have developed machine learning tools to identify and classify transients in galaxy spectra. In this contribution we describe these tools, characterize their performance using simulated spectra, and estimate the sensitivity of DESI to transients important for both astrophysics and cosmology.

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