

Thesis Title	Image-based Transient Detection for GOTO Sky Survey
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ABSTRACT

GOTO sky survey's objective is to study transient objects requiring big data to be processed regularly. The retrieved information used to be classified. However, the methods based on machine learning are ineffective due to the imbalanced data. Therefore, the objectives of this study are to provide an alternative method and evaluate the model with data with multiple noise levels. A concept of UNET's fully convolutional network is chosen from four possible classification methods. Using the simulated data generated from information collected as an input, outputs are generated based on different model setups. A way to achieve the results is also suggested at the end of the experiment in accordance with the aims of data users.

Keywords: Artificial Intelligence, Deep Learning, Change Detection, Astronomy, Sky Survey