

ABSTRACT

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Automated Transient Detection from Archived Surveys

We present scientific applications of an automated detection and photometry processing framework for astronomical transients.

After its encounter with Pluto in July of 2015, the New Horizons spacecraft will be capable of performing a course change to target a more distant Kuiper Belt Object. A large coordinated multi-instruments survey was set up to detect possible targets. We will show how we processed very crowded and bright fields, adapting a high redshift supernova survey pipeline to detect potential flyby targets, and using citizen science to quantify efficiency detection. We will also briefly describe how we managed to re-process the photometry of the entire MACHO survey in a completely unsupervised manner using legacy photometry processing software. Both these applications made extensive use of the modularity of a cloud processing framework for astronomy developed at the Canadian Astronomy Data Centre.