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## Photometric Investigation of Novae T Pyx, BT Mon and V574 Pup

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Recurrent novae (RNe) are novae with multiple recorded outbursts powered by a thermonuclear runaway. This occurs on the surface of the white dwarf in a close binary system in which a late type main-sequence or giant secondary star is filling its Roche lobe and transferring material onto the white dwarf primary star. They resemble classical novae (CNe) outbursts in several aspects and by definition, certain of CNe will join the class of RNe when a second major outburst is recorded. RNe play an important role as one of the suspected progenitor systems of Type Ia supernovae (SNe) which are used as primary distance indicators in cosmology. Thus, it is important to investigate the nature of central binary systems of CNe and RNe to determine the relation between the parameters of the central system and outburst type and finally ascertain the population of objects that might ultimately be candidates for Type Ia SNe explosions. The proposal that RNe occupy a region separated from CNe in an outburst amplitude versus speed class diagram was adopted. Since the low amplitude results from the existence of an evolved secondary and/or high mass transfer rate in the quiescent system, RNe candidates should accordingly have low amplitude. The catalog of 93 novae with observed V amplitudes given in the literature was used to select the target novae suspected to be RNe candidates via spectroscopic investigation. We selected 3 preliminary targets including T Pyx, BT Mon and V574 Pup which are suspected RNe candidates based on their low amplitudes and their visibility. We obtained their magnitudes at quiescence using ULTRASPEC spectrograph on the 2.4-m Thai National Telescope. The plots of targets on near-infrared CMD suggest that all three should have main-sequence secondary stars. This is true for T Pyx, whose secondary star has been confirmed spectroscopically to be a main-sequence star, but not yet confirmed for BT Mon and V574 Pup.

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