

THE IMPACT OF NOVA ERUPTIONS ON THE WHITE DWARF

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A nova eruption in a cataclysmic variable (CV) is a thermonuclear explosion on the surface of the white-dwarf primary once it has accreted a critical mass from its late-type companion. Between these eruptions, the binary is supposed to appear as a 'normal' CV, although theories predict that for the first tens or hundreds of years, the white dwarf is still heated up which might influence the mass-transfer rate of the binary.

To study the effect of the nova eruption on the white dwarf, we have conducted a long-term project to recover old novae and to study the binary within. The results show indeed that for the vast majority of old novae, the white dwarf is hot and mass transfer is high. Very few examples exist where a possible cooling of the white dwarf is observed and for any decent statistic, we need to find more novae that are at least a few hundred years old. We are conducting a deep, wide-field H α + [NII] survey of cataclysmic variables to search for remnant nova shells, tell-tale signs of ancient novae. Here we summarise the results of the search and discuss the detections and non-detections in the context of CV evolution.