

CATAclysmic VARIABLES IN THE KEPLER FIELD

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Cataclysmic variables provide the cleanest available natural laboratories to investigate the physical behaviour of accretion disks. The timing capabilities and sensitivity of Kepler are well matched to the timescales and amplitude of accretion disk variability in these sources. This combination provides an unprecedented opportunity to test and refine the paradigms of stellar accretion with high-precision, uniform data containing no diurnal or seasonal gaps. We propose a multi-faceted observational and modeling program that puts our current understanding of accretion disks to the test and has the potential to measure the spatial structure of model-dependent disk parameters. Kepler observations of cataclysmic variables will impact profoundly our understanding of accretion disk dynamics and the nature of astrophysical viscosity. The proposed observations will provide an outstanding astrophysical legacy for the Kepler mission.