Abstract Submitted
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The First Look at an Eclipsing Polar: V1309 Orionis[1] KATHLEEN HALLORAN, Saint Mary's College — V1309 Orionis is a unique magnetic cataclysmic variable system that was recently observed by the Transiting Exoplanet Survey Satellite (TESS) with a cadence of two minutes over a period of four weeks. These observations are the first uninterrupted look at an eclipsing polar. The data show that the orbital light curve contains two humps and a deep eclipse over an 8 hour orbital period. The structure of the orbital waveform is suggestive of ellipsoidal variation, but the maxima near quadrature have different amplitudes that vary independently of each other. The mid-eclipse timings and brightnesses are studied to seek evidence for systematic changes across orbits. The duration of observation also allows for the study of the stability of this accretion rate. Additionally, the trailed power spectrum shows intermittent quasi-periodic oscillations near a frequency of 112 cycles per day.

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