

Abstract Submitted  
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**DES14C1kia: A Well-Observed Tidal Disruption Event**<sup>1</sup> JESSICA JOHNSON, TIARA HUNG, University of California, Santa Cruz, RYAN FOLEY, University of California, Santa Cruz, Dark Energy Survey, DARK ENERGY SURVEY COLLABORATION — When a star comes within a critical range of a black hole, the star is torn apart by tidal forces. These events, known as tidal disruption events (TDEs), present a unique opportunity to study quiescent black holes and their accretion mechanisms. Although the discovery of these events are becoming more common, it is rare to have early time data for TDEs. We present the data of DES14C1kia in optical from the Dark Energy Survey and in UV from the Swift Space Telescope. Of the 2,000 transient events observed by the Dark Energy Survey, this is the only TDE in its discoveries. DES14C1kia has a redshift of 0.162 and its light curve shows that it rises over a 56 day period to a peak absolute magnitude of  $M_g = -18.8$ . Our results from MOSFiT, the Modular Open Source Fitter for Transients, determine this event is associated with a 20 million solar mass black hole and a 0.56 solar mass star that was disrupted. DES14C1kia is one of a handful of TDEs with multi-wavelength observations covering the entire pre-peak phase. The well-sampled light curves and its unique properties make DES14C1kia a valuable sample to add to the population of known TDEs.

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