

Abstract Submitted  
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**DUET: The Dynamic Ultraviolet Explorer Telescope** BRIAN GREFENSTETTE, FIONA HARRISON, Caltech, THE DUET TEAM TEAM — The Dynamic Ultraviolet Explorer Telescope (DUET) is wide-field UV Small Explorer mission that repeatedly images large fields in the sky nearly continuously for long durations. DUET is agile, accessing a large fraction of the sky and rapidly responding to targets of opportunity. DUET explores the gravitational wave frontier by observing the afterglows of neutron star mergers triggered by ground-based gravitational wave observatories. DUET pinpoints the early UV emission and follows its temporal and spectral evolution from an hour to days after the coalescence. DUET probes the nature of supernova progenitors and explores the origin and evolution of stars and galaxies by observing the earliest UV light from the demise of massive stars, minutes to days after the explosion. DUET measures the UV characteristics of a large sample of Galactic stars to reveal how stellar activity depends on mass, age, and rotation rate. These data provide critical inputs to models examining the evolutionary history of exoplanet atmospheres, informing us about their potential to host life. Over its two-year mission, DUET provides the first wide-field, UV time-domain survey of the sky, generating rapid alerts for diverse transient phenomena from tidal disruption events to fast blue optical transients

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