

Abstract Submitted  
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**Investigating the Star Formation History of Active Galactic Nuclei Hosts Over Cosmic Time  $z = 0-2.5$** <sup>1</sup> RACHEL CIONITTI, University of Kansas — Active Galactic Nuclei (AGN) are supermassive black holes at the centers of galaxies, which are actively accreting matter. They are some of the brightest objects in the universe, which makes them perfectly suited for investigating cosmic history. This research focuses on the relative amounts of star forming and quiescent (non-star forming) galaxies hosting AGN from redshift 2.5 to 0. This analysis is performed by creating UV-VJ diagrams for each epoch of time units  $z=0.5$ . These diagrams have a visible threshold that indicates whether a galaxy is star forming or quiescent. This research indicates that galaxies hosting AGN do not evolve similarly to typical galaxies that have undergone the same analysis. While typical galaxies from the same redshift range have been observed to begin at  $z=2.5$  as star forming and quiescent equally, and over time separate into a strictly bimodal distribution of both states. My research shows that AGN begin as mostly star forming and evolve slowly over time to be a more collective distribution straddling the line between quiescent and star forming but moving into quiescence. This implies that AGN may have a profound effect on star formation.

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