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Caught in the Act: Dozens of New Herbig-Haro Objects Reveal Waves of Star Formation in the Aquila Rift

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The extensive Aquila Rift dark cloud complex stretches across the northern hemisphere summer Milky Way. It contains at least 100,000 solar masses of molecular gas, yet only a handful or two of young stars had been identified in the Rift, raising questions about the apparent paucity of star forming activity. Although the Herschel mission detected several hundred embedded cores, an in-between generation of young protostars has not been previously seen. We have surveyed Aquila for Herbig-Haro outflows using the Blanco 4-meter telescope with DECam, a unique facility+instrument combination that offers high sensitivity, wide (3 square degrees) field of view, and arcsecond resolution. Observations with H-alpha, [SII], g' and i' narrow and broad band filters have yielded 45 new HH object detections, allowing us to map the distribution of over 100 embedded young stars in the Rift cloud cores. We compare the distribution of molecular and atomic gas in Aquila to the location of the HH objects in order to understand the broad context for star formation in a giant cloud complex. Differences between the Galactic location of the Rift and other similar regions with more evolved young star populations may provide clues to the chronology of star formation in our Galactic region.