

Recent Star Formation in Local Group Galaxies from the GALEX Surveys

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ABSTRACT: We present deep GALEX imaging in the far-UV and near-UV bands of M31 and M33. The ultraviolet images, covering the entire extent of these nearby spirals at a depth of 28 AB mag/sq. arcsec, provide a complete census of compact and diffuse UV emitting components. Comparison of UV and H α emission across the diverse range of galactic environments constrains the recent star formation in these galaxies and its effects on the diffuse interstellar medium. Complete survey details are given in Thilker et al. (2004, ApJL in press).

UPCOMING WORK: These panoramic UV datasets will be cross-correlated with ground-based imaging surveys to produce a multi-wavelength matched catalog of compact sources in both galaxies. For this work we will utilize UBVRI, H α , [SII], and [OIII] data from the NOAO Local Group Survey (Massey et al. 2002) and *ugriz* imaging from the SDSS (only for M31). The GALEX Science Team is also committed to producing similar FUV, NUV mosaics of the Magellanic Clouds. In particular, the LMC will be imaged across an 8x8 deg² region and the SMC will be tiled over 5x5 deg², with a covering factor set by instrumental safety (brightness) restrictions. Other LG galaxies are included in the GALEX Nearby Galaxy Survey.

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