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Star formation and dark matter in galaxy NGC 157 LAUREN DAVIS, STEPHEN GOTTESMAN, University of Florida — We have made high-resolution images of the atomic hydrogen in NGC 157. When combined with the radio observations of Ryder et al. (1998), these allow a more detailed look at the structure of the extended HI disk of NGC 157. In the inner part of the HI disk we found a close association between large HI density and the presence of ionized hydrogen regions. The rotation curve falls to $\sim$120 km s^{-1}, nearly half its peak value, a steep drop that may imply a truncated disk. The determinations of the rotation curve and flux distribution allow the calculation of total mass, HI mass, and mass–to-light ratios. We have detected a tail in the HI leading to a satellite. We believe that the more diffuse outer region has been strongly disturbed by interaction with the satellite. The absence of a corresponding optical source for the satellite galaxy suggests a high mass-to-light ratio.

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