OCULAR GALAXIES: NGC 2535 AND ITS STARBURST COMPANION NGC 2536

E. BRINKS
Universidad de Guanajuato, Guanajuato, México

M. KAUFMAN
Ohio State University, Columbus, USA

D.M. ELMEGREEN
Vassar College, Poughkeepsie, USA

M. THOMASSON
Onsala Space Observatory, Onsala, Sweden

B.G. ELMEGREEN
IBM T. J. Watson Research Center, Yorktown Heights, USA

C. STRUCK
Iowa State University, Ames, USA

AND

M. KLARIĆ
Midlands Technical College, Columbia, USA

We obtained HI, radio continuum, and ^{12}CO $J = 1 \rightarrow 0$ observations at resolutions of 12″ to 33″ (= 2.9 – 8 kpc), and B, I, J, and K–band images, of the galaxy NGC 2535 and its small starburst companion NGC 2536. NGC 2535 has an ocular (eye–shaped) structure indicative of a recent, close, nonmerging encounter. Our observations reveal widespread high velocity dispersions (30 $\mathrm{km\,s^{-1}}$) in the HI gas and five clouds with masses of $\sim 10^8\ M_\odot$ in the tidal arms of NGC 2535. CO emission was detected at the center and on the tidal tail, but close to the center, of NGC 2535; no CO emission was detected from the companion. NGC 2535 has an intrinsically oval shape to the disk, an extended ($R = 48$ kpc) HI envelope and an outer elliptically–shaped HI arc that may be a gravitational wake produced by the passage of the companion within or close to the extended HI envelope. The starburst companion, NGC 2536, lies in a $2 \times 10^9\ M_\odot$ clump of HI gas at the outer end of the tidal bridge from NGC 2535. A full account our results appears in Kaufman et al. (1997, *AJ*, **114**, 2323).