

R63c Molecular Gas Observations of Recently Collided Galaxy Pairs: UGC 12914/5 (Taffy I) and UGC 813/6 (Taffy II)

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We present CO(1-0) observations of UGC 12914/5 (Taffy I) and UGC 813/6 (Taffy II) using the OVRO millimeter array. These are examples of two disk systems that have recently undergone a penetrating collision, evidence of which comes from the long stretching radio continuum bridges seen between the two galaxies (Condon et al. 1992, Condon et al. 2002). The estimated interaction age is approximately $\sim 10^7$ years. The main aim of these observations is to investigate the response of gas to the transient perturbation of gravitational potential and resulting inflow. The constraint given on the merger time scale allows us to conduct detailed comparison with results from numerical simulations by focusing on the epoch shortly after the initial collision. Extensive gas supply near the central regions of the galaxies may fuel future bursts of star formation activities, which can ultimately result in systems high in infrared luminosity (ULIRGs). We plan to extend this study to include interacting galaxies from a wide range of interaction time scales in the future.