HCO^+ IN THE HELIX NEBULA

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The J = 1→0 transition of HCO^+ is currently being mapped across the planetary nebula NGC7293, the Helix Nebula, using the Arizona Radio Observatory (ARO) 12m telescope. The spatial resolution at 89 GHz, the J = 1→0 transition frequency, is 70 arcsec and the map will encompass the region ∼1000 arcsec × 800 arcsec with spacings of 35 arcsec. Approximately 10% of the map has been completed, and the data already indicate that HCO^+ emission is widespread across the Helix Nebula and has a complex kinematic structure that often differs from that of CO. The extended distribution of HCO^+ also suggests that dense clumps may exist throughout the nebula. The chemistry of old planetary nebulae may be more active than previously thought.