

RYDBERG STATES CONVERGING TO HIGHER VIBRATIONALLY EXCITED STATES OF HCO<sup>+</sup>.

ROBERT J. FOLTYNOWICZ, WOLFGANG RUPP, HARTMUT G. HEDDERICH and EDWARD R. GRANT, *Department of Chemistry, Purdue University, West Lafayette, IN 47907-1393.*

Single rotational levels photoselected in the strongest bent  $B^2A'$  state of HCO serve as intermediate states in double resonance transitions to Rydberg states built on higher vibrationally excited levels of the linear HCO<sup>+</sup> core. Frank-Condon factors for the bent-to-linear transitions discriminate against resonances converging to lower lying vibrational states. Widths and intensities of multiple quantum vibrational autoionization resonances are affected by the level of core excitation.