2+1 REMPI OF CO AND N_2 OBSERVED OPTOGALVANICALLY IN GLOW DISCHARGES

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2+1 resonance enhanced multiphoton ionization spectra of CO (through the $B\,^1\Sigma^+$ intermediate state) and N_2 (through the $a''\,^1\Sigma_g^+$ state) have been observed optogalvanically. UV light pulses focused into the positive columns of 1–10 Torr glow discharges produced easily observable changes in the discharge currents. The signal intensities appeared to provide quantitative measurements of the vibrational and rotational population distributions in the discharges. Population analyses and comparisons with independent population measurements will be presented.