TRANSIENT FREQUENCY MODULATION SPECTROSCOPY OF TRANSITON METAL CONTAINING MOLECULES

TIMOTHY C. STEIMLE AND WILTON L. VIRGO, *Department of Chemistry and Biochemistry, Arizona State University, Tempe, Arizona 85287-1604*.

Transient frequency modulation (TFM) spectroscopy is an attractive spectroscopic technique because of its intrinsic high spectral resolution and its match with our pulsed molecular beam generation schemes. A progress report will be given on the construction of the TFM spectrometer and its application to the detection and characterization of transition metal radicals in the visible and near infrared region. Absorption based spectroscopy is desired due to the low fluorescence quantum yield of many species and the low detector sensitivity of GaAs photomultiplier tubes currently used.