RESONANT TWO-PHOTON DISSOCIATION SPECTROSCOPY OF FeO^+: CHARACTERIZATION OF THE $^6\Sigma$ GROUND STATE

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We have measured several bands in a $^6\Pi - ^6\Sigma$ transition in FeO^+ with rotational resolution. In this one-color, two-photon resonant dissociation experiment, one photon excites molecules to the $^6\Pi$ state, while the second photon dissociates the excited molecules. The spectrum is measured by monitoring the yield of Fe^+ fragments. Results of the rotational analysis of the ($^6\Pi_{7/2}$, v=8, 9)-($^6\Sigma$, v=0) bands will be presented.