

A FRESH LOOK AT THE LOW-LYING ELECTRONIC STATES OF COPPER MONOXIDE, CuO

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The electronic absorption spectrum of CuO between 14,000 and 16,000 cm^{-1} is quite complex due to the five low-lying electronic states found in this region. Recent calculations have encouraged the reexamination and reassignment of several spectral features in this region. The previously reported electronic states $\gamma^2\Pi_{3/2}$, $\gamma^2\Pi_{1/2}$, and $\alpha\Sigma$ states at 15,166, 15,470, and 15424 cm^{-1} , respectively, are now reassigned as spin-orbit components of a $^4\Pi$ state. The high resolution intracavity laser absorption spectra of these transitions in CuO have been analyzed and results will be presented.