SPECTROSCOPY OF CuN IN THE NEAR INFRARED BY INTRACAVITY LASER ABSORPTION SPECTROSCOPY

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Transitions with red-degraded bandheads have been identified at 13005, 12963, 12957, and 12948 cm^{-1}. One P and one R branch are identified in each transition. We have tentatively assigned these transitions as absorption from the X $^3\Sigma^-$ ground state of CuN. Rotational analyses of these bands are in progress, and results will be presented. A strong perturbation is observed in one of the excited states. The electronic structure of CuN will be discussed and compared with predicted electronic states from theoretical calculations. The gas phase CuN molecules were produced using a copper hollow cathode in a plasma discharge.