HIGH RESOLUTION LASER SPECTROSCOPY OF RUTHENIUM MONOXIDE

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Ruthenium monoxide (RuO) molecules have been studied by laser-induced fluorescence in the UNB laser-ablation molecular-jet apparatus. Spectra with line widths of $\sim$115MHz have been obtained allowing the seven different isotopologues of ^{n}RuO (n=104, 102, 101, 100, 99, 98, and 96) to be observed. In addition, hyperfine structure due to the nuclear spin I=5/2 for the odd isotopes of ruthenium has been resolved. The 2-0, 1-0, and 0-0 bands of the [18.1]4 - $X^5\Delta_4$ have been analyzed and the results will be compared to the earlier work of Cheung et al.[a] Studies of the red [16.0]5 - $X^5\Delta_4$ transition are continuing and will also be presented.

[a]N. Wang, Y.W. Ng, and A.S.-C. Cheung, J. Phys. Chem. A 2013, 117, 13279-13283.