HIGH RESOLUTION LASER SPECTROSCOPY OF STRONIUM MONOMETHOXIDE

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Visible laser excitation spectra of the $B\,^2A_1 \leftarrow X\,^2A_1$ system of four isotopomers of strontium monomethoxide have now been recorded. By examining the effect of isotopic substitution on the spectra, we hope to determine the structural parameters in the ground and excited states, and examine how the molecular structure changes on excitation. The radicals were produced in a laser ablation apparatus using a 1.5 % mixture of $^{12}CH_3OH$, $^{13}CH_3OH$, $^{12}CD_3OD$ and $^{13}CD_3OD$ entrained in helium, and high resolution spectra were recorded using a CR 699 autoscan dye ring laser. The analysis used an effective Hamiltonian given in the literature,[a] and the results of the analysis will be presented.

[a] P. Crozet, A. J. Ross, C. Linton, A. G. Adam, W. S. Hopkins and R. J. Le Roy J. Mol. Spectrosc. 229 224-230(2004)