ROTATIONAL ANALYSIS OF LASER INDUCED FLUORESCENCE DATA FOR $Rh^{16}O$ and $Rh^{18}O$

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We recently reported the laser induced fluorescence[a] and dispersed fluorescence[b] spectra for rhodium monoxide. Molecular constants were derived from our rotational analysis of the four 0-0 bands of two $^2\Pi \leftarrow X^4\Sigma$ transitions using jet-cooled (J = 15) high-resolution data. We have now extended the analysis to include data from 16 $Rh^{16}O$ medium-resolution sub-bands (J = 35) arising from the v = 0 level of the ground state. In addition, emission plates from Stockholm, recorded in the 1960s have been examined, extending the analysis to much higher J. Several bands for $Rh^{18}O$ have also been investigated. Spectroscopic parameters from some 3000 assigned lines will be discussed.

[a] R. F. Heuff, W. J. Balfour and A. G. Adam, *J. Mol. Spec.* **216** 136 (2002).
[b] R. H. Jensen, S. G. Fougere and W. J. Balfour, *Chem. Phys. Lett.* **370** 106 (2003).