

The $^{14}\text{N}^{16}\text{O}$ γ system reviewed through Fourier transform spectroscopy

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In the present work a new analysis of the γ system ($A^2\Sigma^+ \rightarrow X^2\Pi$) of the molecular radical NO through high resolution Fourier transform spectroscopy is presented. Through this analysis the band origin values of 14 bands were corrected in up to 0.7 cm^{-1} in respect to the previously reported values. The p and q parameters of the λ -doubling of the $X^2\Pi$ electronic state are here analyzed assuming van Vleck's pure precession approximation, showing a good agreement between the theoretical and experimental values. Regarding the electronic state $A^2\Sigma^+$, new values of the ρ -doubling parameter γ were obtained for the first three vibrational levels, in particular for $v' = 2$ where for the first time this parameter is obtained by direct fit with reasonable accuracy.

