

JET-COOLED HIGH RESOLUTION INFRARED SPECTRUM OF THE  $\nu_6$  AND  $2\nu_2$  BANDS OF CH<sub>2</sub>F<sub>2</sub>

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A jet-cooled high resolution infrared spectrum was recorded in a slit-jet apparatus in the asymmetric C-H stretching region of CH<sub>2</sub>F<sub>2</sub> between 3002 and 3036 cm<sup>-1</sup>. Approximately 630 transitions were detected of which about 250 were assigned to the  $\nu_6$  band and about 170 were assigned to the  $2\nu_2$  overtone at a resolution of  $\approx 0.002$  cm<sup>-1</sup>. Seven sub-bands were identified in each vibrational band. The assigned transitions were fitted to a Watson Hamiltonian for an asymmetric rotor ( $\kappa = -.932$ ) in the A-reduced  $I^r$  representation. The fitted upper state constants in cm<sup>-1</sup> for each band are tabulated below. Numbers in parantheses indicate the precision of the fit to two standard deviations in the last digit.

Parameter	$\nu_6$	$2\nu_2$
$\nu_0$	3014.05028(12)	3026.2297(2)
$A'$	1.62868(4)	1.63396(6)
$B'$	0.354165(5)	0.353673(10)
$C'$	0.308852(3)	0.311833(10)
$\Delta'_j \times 10^{-6}$	0.417(12)	0.41(9)
$\Delta'_{jk} \times 10^{-5}$	-0.16(5)	-0.16(9)
$\Delta'_k \times 10^{-4}$	0.21(3)	-0.15(4)
$\delta'_j \times 10^{-7}$	0.93(9)	