Species Tag:	63004		Name:	HNO$_3$ ν_6
Version:	2			Nitric acid
Date:	Jul. 2004			
Contributor:	B. J. Drouin, E. A. Cohen, D. T. Petkie			

Lines Listed:	66984		Q(300.0)=	110248.049
Freq. (GHz) <	2114		Q(225.0)=	60668.605
Max. J:	150		Q(150.0)=	30214.599
LOGSTR0=	-10.0		Q(75.00)=	10483.257
LOGSTR1=	-8.0		Q(37.50)=	3709.987
Isotope Corr.:	0		Q(18.75)=	1315.069
Egy. (cm^{-1}) >	0.0		Q(9.375)=	467.431
μ_a =	1.986		A=	13006.201
μ_b =	0.882		B=	12057.503
μ_c =			C=	6282.339

    The data set used in this fit is that of D.T. Petkie *et al.*, Journal of Molecular Spectroscopy 218 (2003) 127, 130, and references cited therein. There are many unresolved asymmetry multiplets in the data set. For the purpose of fitting, these were usually assigned to a single component. The merged file reflects this. The dipole moment was taken from the remeasurements report by A. P. Cox and J. M. Riveros, 1965, J. Chem. Phys. **42**, 3106. Nitrogen quadrupole splittings were fitted for many low-J transitions, the catalog prediction now includes all quanta in spin. The partitioning of this molecule into accessible vibrational states is over 30% at room temperature. Since the full rotational-vibrational partitioning is well known for states < 1000 cm^{-1}, the vibrational partitioning has been included in the catalog prediction. For states below 1000 cm^{-1}, the sum-over-states calculation is explicitly used, for states above 1000 cm^{-1}, the harmonic-oscillator approximation is used. Comparison of the H.O. approximation and the sum-over-states method for states below 1000 cm^{-1} shows agreement to <0.2% at 300 K. Truncation of the sum-over-states method to J < 99 produces less than 0.003% error.