PRESSURE BROADENING AND FREQUENCY MEASUREMENTS OF NITRIC ACID LINES IN THE 683 GHZ REGION

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Nitrogen, oxygen and self-broadening coefficients of four transitions in the ground vibrational state of nitric acid (HNO_3) have been measured at room temperature, using tunable far infrared (TuFIR) laser spectroscopy. In addition, absolute frequencies of 60 HNO_3 lines between 676 and 690 GHz were measured for the first time with a mean uncertainty of < 1 MHz. These results provide a significant database for atmospheric remote sensing experiments and spectral analyses in this region.