Analysis of Ammonia Line Parameters in the 3-μm Region

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Improved spectroscopic line parameters of ammonia in the 3-μm region are now available. These have been obtained from extensive new measurements using two Fourier transform spectrometers. For line positions, spectra were recorded in France at 0.0054 cm^{-1} resolution, and for line intensities, 16 spectra from the Kitt Peak FTS in Arizona were used. Some 1800 transition positions and nearly 1000 line strengths (of the ν_1 and ν_3 fundamentals at 3323.7 and 3443.8 cm^{-1} and the $2\nu_4$ overtone at 3229.8 cm^{-1}) were modelled using an effective rotation-inversion Hamiltonian to obtain a new ammonia linelist in HITRAN format between 3000 and 3700 cm^{-1}.

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