HIGH RESOLUTION INFRARED SPECTRA OF ^{13}C-METHANOL IN THE OH-STRETCH REGION

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High-resolution infrared spectra of the ^{13}C-methanol ν_1 band have been obtained by slit-jet absorption spectroscopy. A total of 1278 lines have been recorded from 3665 to 3708 cm^{-1} with several "holes" resulting from strong water absorption lines. Thirty five subbands of the ν_1 band with $K = 0, 1, 2$ have been assigned based on polynomial fits and ground-state combination differences. Half of the upper states are split by perturbations with matrix elements in the range of 1-3 cm^{-1}. The deperturbed data show an approximately regular pattern of torsional energies with a torsional tunnelling splitting of 7 cm^{-1} at $K = 0$.