QUASI-CW CAVITY RINGDOWN SPECTROSCOPY

JOHN G. CORMIER and JAMES R. DRUMMOND, *Department of Physics, University of Toronto, 60 St. George Street, Toronto, Ontario, M5S 1A7.*

We have developed a quasi-CW cavity ringdown experiment in order to measure water vapour continuum absorption in the 9-11 μm region of the infrared. The experiment relies on a line- tunable CO_2 laser and an electro-optic modulator to form a very long pulse, and a novel ringdown cavity design which is ultra-stable. By fine-tuning the laser frequency into resonance with the ringdown cavity, we greatly improve the coupling efficiency. Using this technique we have been successful at making measurements of the water vapour continuum. We compare our results with previous measurements of the water vapour continuum and present our analysis of system performance.