PROGRESS AND PITFALLS IN QUANTITATIVE INFRARED CAVITY RINGDOWN SPECTROSCOPY

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

In the past decade, cavity ringdown spectroscopy has emerged as a high-performance technique of exceptional promise. However the successful development of a quantitative cavity ringdown experiment depends on a number of factors which have not been extensively discussed to date. Such factors include the performance of the laser modulator, the linearity of the detector, and subtle effects related to gas exchange. Following a discussion of these issues, we will present the latest results from OMICRON, the single-mode infrared cavity ringdown experiment developed to measure the water vapor continuum absorption in the thermal infrared atmospheric window region.