CAVITY RING DOWN AT LOW TEMPERATURES: APPLICATION TO ATMOSPHERIC CHEMISTRY

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In our laboratory we have been able to observe weak absorptions with an optical cavity of 45 cm in length, that can simulate an optical path length of 10 Km and work at temperatures between 10 K and 298 K. A variable temperature cavity ring down technique will be presented to simulate conditions of pressures and temperatures of the atmosphere at altitudes below 50 km, where visible radiation is more abundant than UV radiation. Throughout the seminar, the importance of these studies to account for some atmospheric chemical reactions will be emphasized. Applications to the study of earth's atmospheric chemistry, as well as chemical reactions and spectroscopy of the atmospheres of planets and satellites of our solar system, will be discussed.