SATURATION OF THE NO_2 $\nu_1 + \nu_3$ AND THE CH_4 ν_3 TRANSITIONS IN HELIUM NANODROPLETS

ROBERT R. FEHNEL, KEVIN K. LEHMANN, *Department of Chemistry, University of Virginia, Charlottesville VA, 22904-4319*.

We will report our findings of quantitative study of saturation of IR transition in Helium nanodroplets. The excitation source is an Argos cw PPLN OPO (Aculight) that is focused to a spot of 27 μm, producing a pear power of 87 kW/cm^2.
We have also used a "Perry Cell" multi pass cell to study of the effect of extending the interaction time. We will present results for a study of the 2905.566 cm^{-1} R(0) transition of NO_2 and the 3029.07 cm^{-1} R(0) transition of CH_4.