Towards Acquisition of A High-Resolution Gas Phase Spectrum of C_{60} $\sim$8.5μm

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Buckminsterfullerene (C_{60}) was originally discovered in experiments seeking to understand carbon star outflow chemistry. Since its initial discovery, indirect evidence has been found for the existence of C_{60} in space. Direct evidence for C_{60} in the interstellar medium or circumstellar media will require positive identification through a spectroscopic search, and a high resolution gas phase laboratory spectrum of C_{60} will prove essential. Acquisition of such a spectrum is difficult due to the negligible room temperature vapor pressure of C_{60} and the low frequencies of the four IR-allowed vibrational modes of the molecule. To confront these challenges, an experimental set-up is being constructed with both a high temperature pinhole supersonic expansion source and a continuous wave cavity ringdown spectrometer using a quantum cascade laser. An overview of the continuing development of the experiment will be presented.