ASTRONOMICAL AND LABORATORY OBSERVATIONS AT KITT PEAK USING PHOENIX

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A new high resolution (~ 0.02 cm^{-1}) cryogenic echelle spectrograph called Phoenix has been constructed at Kitt Peak National Observatory. Phoenix has been used to record high resolution infrared spectra of the obscured carbon star IRC+10216 and the comet Hale–Bopp. Observations were made while Phoenix was attached at the Cassegrain focus of the 2.1 m telescope at Kitt Peak. Molecules targeted for observation included C_7, C_9, C_2H_6, C_2H_4, C_4H_2 and C_3. The design parameters and performance characteristics of Phoenix will be discussed along with some laboratory measurements.