LIF STUDIES OF SIMPLE HALOCARBENES

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We will report on new laser induced fluorescence (LIF) measurements of the $A^1A''$-$X^1A'$ system in the monohalocarbenes HCCl and HCF, and the $A^1B_1$-$X^1A_1$ system in the dihalocarbene $CCl_2$. The carbenes were generated under jet-cooled conditions using a pulsed discharge source. We have applied a variety of techniques to examine the excited state properties, and results from fluorescence excitation spectroscopy, single vibronic level lifetime measurements, and quantum beat spectroscopy will be reported.