High Resolution Laser Spectrscopy of the $\tilde{C}^2A_1$–$\tilde{X}^2A_1$ Transition of $CaNH_2$

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The high resolution excitation laser spectrum of the $\tilde{C}^2A_1$– $\tilde{X}^2A_1$ transition of $CaNH_2$ was recorded with a laser ablation/supersonic molecular beam source. The molecule was made by ablating Ca metal with the second harmonic of a pulsed Nd:YAG laser followed by reaction of with 5% NH_3 seeded in Ar(or He). Laser induced fluorescence spectra was recorded 12 cm downstream from the nozzle with a single-mode cw ring dye laser. Molecular constants for the $K'_a = 0$—$K''_a = 0$ sub-band have been determined. The $K'_a = 1$ —$K''_a = 1$ sub-band is currently being analysed.