JET-COOLED SPECTROSCOPY OF THE $A^6\Sigma^+ - X^6\Sigma^+$ SYSTEM OF CHROMIUM MONOHYDRIDE

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Astrophysical interest in CrH has motivated several studies of its $A^6\Sigma^+ - X^6\Sigma^+$ system[a]. In this work, pulsed laser-induced fluorescence spectra of the $(v', 0)$ bands with $v' = 1$, 2 and 3 have been recorded under supersonic jet-cooled conditions following reaction of laser-ablated chromium atoms with methanol. Because of the large rotational constant and the jet-cooling, only lines with $N'' \leq 5$ are appreciably intense. Satellite branches with $\Delta N \neq \Delta J$, normally forbidden by Hund's case (b) selection rules, readily appear in all three bands as previously observed for the (0,0) band[a]. Lines of the (2,0) and (3,0) bands are assigned here for the first time; strong perturbations considerably complicate the rotational structures of these bands.

[a] S. Shin, D. J. Brugh and M. D. Morse, *Astrophys. J.* **619**, 407−411 (2004) and references therein.