

HYPERFINE STRUCTURE OF THE [14.6] ${}^2\Delta_{5/2}$ BAND OF NiI

W. S. TAM, J. W-H. LEUNG, and A. S-C. CHEUNG, *Department of Chemistry, The University of Hong Kong, Pokfulam Road, Hong Kong.*

High resolution spectra of the [14.6] ${}^2\Delta_{5/2} - X {}^2\Delta_{5/2}$ (9.0) band of NiI near 16594 cm^{-1} have been observed under jet-cooled condition following the reaction of laser ablated nickel metal with CH_3I . With a line width of around 70 MHz, the hyperfine structure is partially resolved. Since the ${}^{58}\text{Ni}$ atom has nuclear spin $I = 0$, the hyperfine structure arises from the iodine atom, which has a nuclear spin of $5/2$. Both ${}^2\Delta_{5/2}$ states conform to case a_β coupling scheme. Molecular constants for both the upper and lower ${}^2\Delta_{5/2}$ states will be reported.