LASER INDUCED FLUORESCENCE SPECTRUM OF IRIDIUM MONOPHOSPHIDE

H.F. PANG, ANWEN LIU AND A. S-C. CHEUNG, *Department of Chemistry, The University of Hong Kong, Pokfulam Road, Hong Kong..*

Laser induced fluorescence spectrum of IrP in the spectral region between 380-600 nm has been studied. Reacting laser ablated iridium atoms with 1% PH_3 seeded in argon produced the IrP molecule. A few vibronic transitions have been recorded. Preliminary analysis of the rotational structure indicated that these vibronic bands are with $\Omega' = 0$ and $\Omega'' = 0$ and is likely to be $^1\Sigma$ - X $^1\Sigma$ transition. Vibrational separation of the excited state is estimated to be about 442 cm^{-1}. The ground state bond length is determined to be 1.766 $\mathring{A}$. This work represents the first experimental investigation of the spectra of IrP.