LASER SPECTROSCOPY OF IRIDIUM MONOBORIDE

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High resolution laser induced fluorescence spectrum of IrB in the spectral region between 545 to 610 nm has been recorded and analyzed. Reacting laser-ablated iridium atoms with 1% B_2H_6 seeded in argon produced the IrB molecule. Four vibronic transition bands: (v, 0) with v = 0-3 of an electronic transition system have been observed. Spectra of all four isotopic molecules: $^{191}Ir^{10}B$, $^{193}Ir^{10}B$, $^{191}Ir^{11}B$ and $^{193}Ir^{11}B$ were recorded. Relationship between isotopic molecules confirmed the vibrational quantum number assignment. Preliminary analysis of the rotational lines showed that these vibronic bands are with $\Omega' = 2$ and $\Omega'' = 3$. Partially resolved hyperfine structure conformed to case a_β coupling scheme has been observed.