HIGH RESOLUTION LASER SPECTROSCOPY OF IRIDIUM MONOFLUORIDE

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High resolution laser spectra of IrF have been acquired in the visible region of the spectrum. The molecules were produced by laser ablation of an iridium target rod followed by reaction with 1% SF_6 seeded in He in a pulsed supersonic jet. Two electronic transitions with extensive upper state vibrational progressions have been observed by laser-induced fluorescence between 450 nm and 665 nm. All the bands are degraded to longer wavelengths and have an R branch head and more open Q and P branches. First lines in the bands were seen allowing line assignments which are consistent with $^3\Phi$ - $^3\Phi$ transitions. Dispersed fluorescence from the bands give a ground state vibrational interval of approximately 647 cm^{-1}. Molecular constants for the excited and ground states will be presented.