ANALYSIS OF THE MAGNETIC HYPERFINE STRUCTURE IN THE $B^3\Phi_4 - X^3\Phi_4$ BAND SYSTEM OF IRIDIUM MONOFLUORIDE, IrF

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Recently the New Brunswick group[a] reported on the detection and analysis of the $B^3\Phi_4 - X^3\Phi_4$ band system of IrF. The free-jet expansion conditions limited the spectral resolution to approximately 200 MHz, which was insufficient to fully resolve the ^{191}Ir(I=3/2), ^{193}Ir(I=3/2)and ^{19}F(I=1/2)magnetic hyperfine splitting. Here we report on the analysis of the same band system recorded under molecular beam conditions which resulted in a resolution of 40 MHz. A simple molecular orbital correlation diagram is used to rationalize the determined parameters of IrF and the isovalent molecules RhF [b] and CoF[c].

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