

ANALYSIS OF THE $A^2\Pi$ STATES OF $Sr^{79}Br$ AND $Sr^{81}Br$: DEPERTURBATION OF THE FIRST EXCITED STATE

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High-resolution laser excitation spectra of the $A^2\Pi$ - $X^2\Sigma^+$ system have been obtained for the 0-0 through 3-0 bands of the two principal isotopomers of SrBr. The molecules were produced by reacting strontium vapor with methyl bromide in a Broida oven. A Coherent 699-29 ring dye laser was used as a probe for both selective detection and resolved fluorescence. Perturbations of the

$A^2\Pi_{1/2}$ state with the closely lying $B^2\Sigma^+$ state, ($\sim 650\text{cm}^{-1}$ higher in energy) are being characterized. An analysis of the "crossing" of the $v=3$ level of the A state with the $v=0$ level of the B state is required in order to obtain physically significant parameters.