HIGH RESOLUTION LASER EXCITATION SPECTROSCOPY OF BARIUM MONOSULFIDE

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BaS molecules were synthesized using a Broida-type oven and detected by laser excitation spectroscopy using a single mode Ti:Sapphire laser. High resolution spectra of BaS were recorded in the $12200 - 12765$ cm^{-1} region. The BaS spectra contain several bands, and preliminary assignments and least-squares fits were carried out using ground state microwave data. The main bands are provisionally assigned to the $A^1\Pi - X^1\Sigma^+$ transition of BaS. Further analysis of the minor isotopologues will be performed in order to obtain a secure vibrational assignment of the upper state levels. More laser scans will also be carried out from 12200 cm^{-1} to the lower frequency limit of the Ti:Sapphire laser. Preliminary results on this ongoing project will be presented.