OBSERVATION OF LOW J TRANSITIONS OF LASER ABLATED ALKALI HALIDES

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Pulsed nozzle Fourier transform microwave spectroscopy has been used to observe low J transitions (J = 1 ← 0 and J = 2 ← 1) of several alkali halides produced by 532 nm laser ablation of pressed pellets. Spectra were readily located using predictions based on literature constants derived from higher J transitions but improvements of 10 to 100 kHz in spectral line positions are obtained. The additional accuracy could prove useful for astrophysical identification. The ^{41}K isotopologue of KBr has been observed for the first time. Ablation of a mixed pellet of KCl and NaBr produces spectra of NaCl, indicating exchange between species produced by the ablation event. Aspects of the new experimental apparatus will be reported.