HIGH RESOLUTION LASER SPECTROSCOPY OF LANTHANIDE HALIDES: RECENT RESULTS

YING SHAN and C. LINTON, *Physics Department, University of New Brunswick,Fredericton, NB, Canada E3B 6E2*.

As part of our ongoing program on the spectroscopy of lanthanide halides, we have obtained high resolution excitation spectra of YbF, YbCl and DyCl. At present, our investigation has concentrated on analysis of the $B^2\Sigma^+$ - $X^2\Sigma^+$ transition of YbF. The lower rotational levels of one component of the v = 0 level of the $B^2\Sigma^+$ state is found to be heavily perturbed. The results of the analysis will be presented, and the perturbation and possible configurational assignments will be discussed. Preliminary data on YbCl and DyCl may also be presented.