

FOURIER TRANSFORM INFRARED EMISSION SPECTROSCOPY OF GAS-PHASE MnH , MnD AND YbH

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Molecules in the gas phase were generated in an emission source that combines a high temperature tube furnace with an electrical discharge. Infrared emission spectra of MnH/D in its ${}^7\Sigma^+$ ground state were recorded using a Fourier transform spectrometer at a resolution of 0.008 cm^{-1} . The vibrational bands $v=1\rightarrow 0$ to $v=3\rightarrow 2$ for MnH and $v=1\rightarrow 0$ to $v=4\rightarrow 3$ for MnD were observed. The vibration-rotation emission spectrum of YbH in its ${}^2\Sigma^+$ ground state was recorded at a resolution of 0.01 cm^{-1} . Lines corresponding to five isotopomers of Yb were recorded for the $v=1\rightarrow 0$ band. In addition some weak electronic transitions of YbH/D in the near-infrared were observed and their analyses may be presented at the conference.