

## HIGH RESOLUTION MID-INFRARED SPECTROSCOPY OF $D_2O^+$

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We have observed the mid-infrared absorption spectra of  $D_2O^+$  using a tunable lead-salt diode laser spectrometer with velocity-modulation technique. The  $D_2O^+$  ions were generated in a water-cooled discharge of a mixture of  $D_2O$  and helium. Spectra were collected in the region between 1000 and 1150  $cm^{-1}$ . Totally 64 lines were assigned to the  $\nu_2$  fundamental band of  $D_2O^+$  ( $\tilde{X}^2B_1$ ). Precise molecular constants have been determined.