HOT WATER EMISSION IN THE NEAR INFRARED

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Hot water lines are found in a variety of sources including hydrocarbon flames and astronomical objects such as brown dwarfs. Thus far, our laboratory has reported on high resolution emission spectra of water vapor at $1550\ ^{\circ}C$ in the region of $400 - 6000\ cm^{-1}$. In our current investigation, we have now recorded our laboratory hot water spectra from $5000 - 9000\ cm^{-1}$ with a Bruker IFS 120 HR spectrometer. The spectra will be compared with absorption spectra of water in sunspots in the same spectral region.