FOURIER TRANSFORM INFRARED EMISSION SPECTRA OF ZnH AND ZnH_2

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We have recorded the vibration-rotation spectrum of gaseous ZnH and ZnH_2 in emission using a furnace-discharge source. The molecules were generated by flowing a few torr of an Ar/H_2 gas mixture over a sample of zinc metal in a furnace at 470°C and applying a 3 kV / 333 mA discharge. The observed spectrum contained the fundamental and first hot band of ^{64}ZnH, ^{66}ZnH and ^{68}ZnH in the $^2\Sigma^+$ ground electronic state, the antisymmetric stretching band, 001-000, of $^{64}ZnH_2$, $^{66}ZnH_2$ and $^{68}ZnH_2$ and the 011-010 hot band of $^{64}ZnH_2$. The highest signal-to-noise ratio for ZnH lines was about 50. The data analysis is in progress and will be presented.