FOURIER TRANSFORM ELECTRONIC SPECTROSCOPY OF STRONTIUM HYDRIDE: SrH and SrD

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During a search for double minima states of several alkaline earth hydrides, high resolution spectra of the $E^2\Pi - X^2\Sigma^+$ transitions of these species were recorded. The results for SrH and SrD, in the 18500 and 19500 cm^{-1} region, are presented in this paper. A new combined discharge and tube furnace source was used to generate the molecules. Strontium metal was heated in an alumina tube to 650°C with a slow flow of Ar ($\sim$ 20 torr) and H_2/D_2 ($\sim$ 1 torr), and a 3kV/330 mA continuous DC discharge was applied. The spectra were recorded using a Fourier transform spectrometer. The resulting molecular constants for SrH and SrD will be presented and discussed.