High Resolution Study of $^{76}GeH_4$ in the Dyad Region

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The infrared spectrum of $^{76}GeH_4/^{74}GeH_4$ (80 % of $^{76}GeH_4$ and 20 % of $^{74}GeH_4$ in the sample) has been measured in the region of 700 – 1050 cm^{-1} with a Bruker IFS 125HR Fourier transform interferometer (Nizhny Novgorod, Russia) and analyzed. More than 2000 transitions with $J^{max.}$ = 25 have been assigned to the bands ν_4, and ν_2 (the last is forbidden by the symmetry, and its transitions are appeared in the spectrum only because of strong resonance interactions between the bands ν_4 and ν_2). Rotational, centrifugal distortion and interaction parameters for the (0100) and (0001) states have been obtained from the fit of experimental line positions. The obtained from the fit set of parameters reproduces the initial experimental data with accuracies close to experimental uncertainties.