EXPERIMENTAL STUDY OF LINE PARAMETERS OF H_2S AROUND $1.57\mu m$ USING TELECOM DIODE LASER SPECTROSCOPY

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Line intensities, self- and air-broadened linewidths of hydrogen sulfide (H_2S) have been determined around 1.57 μm utilizing Voigt line profiles. The measurements were performed by means of direct absorption spectroscopy technique using a continuous-wave tunable telecom-grade external cavity diode laser (ECDL) associated with a White type multipass cell. This spectral region corresponds to an interesting transparency window of the atmosphere. Transitions reaching the $2\nu_1+\nu_2$ and $\nu_1+\nu_2+\nu_3$ two upper vibrational states of H_2S bands were reported in our previous contribution[a]. The line parameter analysis of 29 strong well-isolated lines from these two bands is extension of our knowledge.

[a] O. N. Ulenikov, A. W. Liu, E. S. Bekhtereva, O. V. Gromova, L. Y. Hao, S. M. Hu, J. Mol. Spectrosc. 234, 270, (2005)