INTERCAVITY LASER ABSORPTION SPECTROMETER BASED ON YAG: CR^{4+} LASER FOR 1340 – 1680 nm SPECTRAL REGION

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An intercavity laser absorption spectrometer was constructed on the basis of the full solid state continues wave YAG:Cr^{4+} laser. In addition to first work [a] the investigation of linearity and sensitivity of such spectrometer was performed. Dimensions of z-scheme laser setup were optimized to obtain the maximal absorption sensitivity. It was shown that the spectrometer can operate with an equivalent optical path more than 300 km. The sensitivity equal to $10^{-9} cm^{-1}$ was reached.

[a] D. A. Gilmore, P. Vujukovic Gvijin and G. H. Atkinson, Opt. Commun., 103(1993), 370.