

Diploma thesis abstract

**“ Terahertz image acquisition and analysis for  
biological tissues”**

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This diploma work is devoted to the use of pulsed THz spectroscopy to construct pseudo-3D images. The imaging system based on THz reflection time domain spectrometer with spatial resolution near 0.8 mm was created and the software to automate the experiment was written. Also, the algorithm of processing received information to extract the interfaces between regions with different refractive indices with the possibility of obtaining the boundary shape and the relative refractive index was proposed and implemented. The objects of research were biological tissues with low water content. Necessary modifications of the experimental setup were identified to account for the specific samples.

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