

Analysis of THz and Raman spectra of glioma patients biofluids by machine learning methods

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Application of modern machine learning methods to the analysis of glioma is presented. Blood serum of small animals, blood plasma and liquor of human patients was studied by the THz and Raman spectroscopy. Methods for informative biomarkers detection was evaluated and compared with magnetic resonance spectroscopy data. Problems of analysis highly dimensional but low samples number biodata is discussed. Examples of machine learning pipelines with dimensionality reduction based on PCA, t-SNE and classification models constructed by XGBoost, SVM, Random forests are presented.

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