Using Artificial Neural Networks for Optical Imaging of Fluorescent Biomarkers

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Abstract : The article presents the results of the application of artificial neural networks to separate the fluorescent contribution of nanodiamonds used as biomarkers, adsorbents and carriers of drugs in biomedicine, from a fluorescent background of own biological fluorophores. The principal possibility of solving this problem is shown. Use of neural network architecture let to detect fluorescence of nanodiamonds against the background autofluorescence of egg white with high accuracy - better than 3 ug/ml.