



Abstract

The Development of the “Sleeping Gene” Type Biosensor as a Method to Increase the Efficiency of the Magnetocardiograph Performance [†]

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This paper recommends using a biosensor of the “sleeping gene” type to raise the effectiveness of magnetocardiogram diagnosis at an early stage of myocardial pathological development.

The myocardium is known to be of the “Moebius leaf” topology. The MCG research results have also shown that the magnetic strength amplitude in the myocardium normal condition reaches 50 pT, whereas the heart biomagnetic field strength amplitude increases in the case of the myocardial pathology.

This paper reports that in the heart topological model approximation, the record of the heart magnetic strength peak values and the dispersion of microalterations under the controllable external electromagnetic influence can be effectively used as diagnostic markers of oncoming functional changes in the myocardium.

This enables the myocardial pathological processes to be traced at an early stage of their development.

The obtained results suggest a possibility of early diagnosis of myocardial pathological development by recording amplitude parameters of the heart magnetic strength, where expensive SQUIDS can be replaced by much cheaper and smaller milligauss meters.

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