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MONITORING OF BRAIN TUMOR EVOLUTION USING IMPEDANCE TOMOGRAPHY

ABSTRACT *The paper proposes new technique for a non-invasive monitoring of local changes in a biological tissue based on impedance tomography. The injected current causes apart of the electric field inside the given object also the magnetic field. The new algorithm for conductivity image reconstruction, which uses the internal current information with respect to corresponding boundary conditions and one component of an external magnetic field, was developed. The internal conductivity distribution obtained using the proposed method is compared with those using conventional methods based on Electrical Impedance Tomography.*

Keywords: *electrical impedance tomography, biological tissue, magnetic field, conductivity, electric field, electrical capacitance tomography, magnetic flux density, voltages, magnetic resonance.*