

## NEW THERMOELEMENT TYPES

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Thermoelements based on the use of eddy thermoelectric currents in the gyrotropic, inhomogeneous and anisotropic thermoelectric materials have been created and studied within the uniform treatment.

The gyrotropy of a medium is due to a magnetic field, the inhomogeneity - due to programmable variation of material properties (FGM). The artificial anisotropy is created by combinations of natural anisotropy of crystals, magnetic field application and/or the use of oriented second-phase inclusions to matrix of composite thermoelectric materials.

Computer technologies of physical fields simulation in thermoelements and their optimal design methods have been developed.

The advantages of new thermoelement types over conventional thermocouple batteries have been revealed.

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