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New Method for Investigation of Dynamic Parameters of Thermoelectric Modules

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Abstract: Precise calculation of parameters of thermoelectric modules and thermoelectric devices under operating conditions by present methods is very difficult. In this study, a new method is developed to calculate all parameters of thermoelectric modules. This new method makes it possible to determine the dynamic parameters of a real thermoelectric module operated under different working regimes. Measurement of thermoemf created by an operating module is the basis of this new method. An unloaded thermoelectric module, whose dynamic output parameters are necessary in the design of a medical helmet for the cooling of brain, has been investigated using this new method. A special device has been designed and realized to be used in these investigations.

Key Words: Thermoelectric module, thermoelectric properties, method, measurement, dynamic parameter, test

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