Some possible applications of the intensive research method and the method of characteristic transformations

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The intensive research method is connected with the acquisition of a great set of experimental data (a response of a researched object to an influence as a function of time and an influence “strength”) that gives broad possibilities to use math for processing of acquired experimental data, for their differential transformations and particularly for characteristic transformations /1, 2/ leaving a broad space for new approaches and result presentations. It allows getting comprehensive information concerning characteristic features of functional dependence of a response of a researched object to an influence (as a function of time and an influence “strength”) and determines possible applications of the intensive research method and the method of characteristic transformations.

Among suggested applications of the methods we can list:
- selective quality control of objects of mass production
- control of changes in a technology of production of these objects
- reliability control of different objects
- recognition (discerning) of some object among other similar objects of a class
- detection and specification of different forms of behavior of researched objects
- scientific research

Among advantages of the intensive research method that could condition its application we can list:
- small time of acquisition of experimental data that is sufficient to give comprehensive information concerning functional behavior of an object’s response to an influence (as function of time and an influence “strength”)
- possibility to use characteristic images of experimental data for goals of an object diagnostics that are convenient simultaneously to detect the regions of experimental data with requested type of response’s functional behavior and specify this behavior. This, in its turn, gives us specific characteristic features of the data for comparison and excludes the necessity to know in advance which regions of experimental data are essential for diagnostics.

Acknowledgements
The author would like to thank his eldest son for the support of the study.

References
2. US patent 6,549,877

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