PROCESSING OF HETEROGENEOUS DATA OF EXPERIMENTS AND CONSTRUCTION OF RECOMMENDED RELATIONS

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The report describes the developed method of evaluation of heterogeneous thermodynamic and thermophysical experimental data, and its software implementation in the form of a complete software tool.

Under the term "heterogeneous ... data", the authors understand the sets of experimental points obtained in different years (currently, the time range of accepted papers ranges from 1919 to 2014), by different authors or groups of authors, by different methods, with different degrees of purity of the materials and so on. The latter circumstance has become particularly relevant in the last two decades due to the significant improvement in the quality of measurements with the use of very precise measurement methods.

The main feature of thermophysical and thermodynamic data focused on atomic energy is relatively small sets of experimental values obtained by different authors. Usually their number does not exceed eight or ten points. And only recently, the works began to appear in which the number of experimental points is more than ten or fifteen. The reason for the "scarcity" of the experimental material is the extreme complexity and high cost of the experiment with parameters varying in a wide ranges.

The report describes the developed method of evaluation of experimental data taking into account the specifics of nuclear power and its program implementation.

The description of the developed database, its components and web-implementation is given.