

posed, which are based on measurements of implanted radon progeny α – emitters (^{210}Po) in glass surfaces or volumes of some detectors.

Keywords: solid-state nuclear track detectors (SSNTD), Nuclear tracks, LR 115, Retrospective radon dosimetry.

SOLVING SOME PROBLEMS IN FIELD OF HEAT CAPACITY BY USING OF NEW CORRELATION

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In the thermodynamics practice, both for semi – ideal and for real gases, the dependence of the middle specific heat capacity of temperature, is usually determined by experimentally as linear function, mainly, for the relatively short temperature range. In addition to this, for the purpose of various analyzes, both in theory and in practice, is necessary to know the dependence of the real specific heat capacity of temperature also. Due to this, in this paper was the definition of the middle specific heat capacity for certain, selected a suitable temperature range, by using differential and integral calculus, analytical dependence is derived from the real specific heat capacity and the middle specific heat capacity. The relation which is given in the differential form for defined temperature range, allows direct troubleshooting without special restriction on its use. By using the resulting dependence, the general model is derived in the form of polynomial of arbitrary degree by depending of temperature, which is faster and more convenient for practical application of the current model, which has not a general character. Also the existing model is not the most appropriate because it solves the problem given indirectly, considering it requires analytical dependence of the amount of exchanged heat. Correlation which has derived in this paper, can be effectively applied to obtain of depending on the amount of exchanged heat between the temperature and also for the observed temperature range. Derived analytical relation was used to obtain another relation to the amount of exchanged heat which have a more complex form of the existing two, which can be applied for various thermodynamic analysis. Verification of the present model and the possibility of its application is given to a few characteristic examples of semi – ideal and real gas and CO_2 gas as semi – ideal based on the experimental results, the diatomic semi – ideal gases starting from Einstein relation, water as real fluid starting from the Dieteritium relation, and at the and characteristic group of real gases. Therefore, it is seen wider temperature range.

Keywords: specific heat capacity, semi – ideal and real gas, the temperature of gas, differential and integral calculus, analytic correlation.