

Abstract Submitted
for the DAMOP11 Meeting of
The American Physical Society

On the Systematic Error in the Quantum Mechanical Calculations to the Periodic Table of Elements ALBERT KHAZAN, IMET — The scientists working on the problems of the Periodic Table of Elements regularly attempt to create models of the elements on the basis of the laws of Quantum Mechanics. One even attempted to use the calculation of the dependency “atomic mass – element’s number” on this basis, in order to extend the Table by introducing two new Periods containing 50 elements each. The hyperbolic law we have found in the Periodic Table allows to find, first, the atomic mass of the last (heaviest stable) element (411.66), then – the number of the protons in it (155). Two functions were compared: the IUPAC 2007 function (elements 80-118) and another one created according the other data (elements 80-224). Both functions have a large deviation of data in No.104-118. Commencing in Period 8, there are three “shifts” of atomic mass for 17, 20, and 25 AMU. Also, our analysis manifests that there in all the aforementioned data is a single point with atomic mass 412 and number 155, where the parameters meet each other. This fact verifies our theory (Khazan A. Upper Limit in Mendeleev’s Periodic Table – Element No.155. 2nd ed., Svenska fysikarkivet, Stockholm, 2010).

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Date submitted: 12 Jan 2011

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