

Abstract Submitted  
for the DNP08 Meeting of  
The American Physical Society

**The Upper Limit in the Periodic Table** ALBERT KHAZAN — Many scientists believe in the idea that the Periodic Table of Elements may be expanded to the period 8, 9, and so forth. Offered atomic nucleuses on 114, 126, 164 protons and 184, 258 neutrons. However no one claim was made yet on the upper limit of the Table. The standard methods of nucleosynthesis of super-heavy elements include recognition of the products came from nuclear reactions, where new elements may be discovered as well. This fact however gives no information about a possible limit in the up of the Table (a last element). To fill this gap a new theoretical approach is proposed, an essence of which is the idea that on any chemical composition of a molecular mass  $X$  the content  $Y$  of the recognized element  $K$  which should be related to one gram-atom, for unification. In such a case, meaning  $K$  the atomic mass, the equation  $Y=K/X$  manifests an equal-side hyperbola which lies in the 1st quadrant ( $K>0$ ), while the top of the hyperbola should be located in a real axis directed with 45 deg to the positive direction of the abscissa axis with the boundary conditions  $Y \leq 1$ ,  $K \leq X$ . The equation allows calculation for the content of any element in any chemical composition (Progr. Phys., 2007, 1, 38; 2, 83; 2, 104; 2008, 3, 56).

Albert Khazan

Date submitted: 07 Jul 2008

Electronic form version 1.4