Abstract Submitted
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Bound nucleons have unique masses that govern elemental properties EUGENE PAMFILOFF, VPDM / Optigon Research and Development, retired — It is known that measured binding energies associated with elements require equivalent energy to break the nuclear bond of a nucleus. Based upon the proposals contained in recent published works [1] [2] and with support from experimental high-energy data, it can be shown that a portion of listed binding energies are attributable to bound nucleons having a unique mass for every element. The figures show, relative to the hydrogen proton, that of the: a) 1.112 MeV binding energy per nucleon for 2H, 44% or 0.486 MeV represents a change in mass (Δm) for the proton or neutron; b) of 5.629 MeV binding energy per nucleon for 7Li, 87% or 4.890 MeV represents a change of mass for each nucleon; c) likewise, 56Fe has 8.811 MeV binding energy per nucleon and of this 92% or 8.119 MeV represents a change in mass for each nucleon, and 232Th has 7.639 MeV binding energy per nucleon and of this, 90% or 6.848 MeV represents a change in mass for each nucleon. This demonstrates that the nucleons of each element have unique masses. It has been shown that if three protons are removed from 82Pb the result is not 79Au; therefore, we conclude and predict that in addition to the Z number, elemental properties are determined by the unique proton and neutron masses for each element. megforce@physast.uga.edu [1] "The Order of the Forces", [2] "The Geatron Nuclear Model"

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