

# A MERGER BETWEEN THE QUANTUM PHYSICS OF QUANTUM FIELD THEORY AND THE PERIODIC TABLE

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**T**he mathematics of quantum physics from Quantum Field Theory using groups  $U(1) \times SU(2) \times SU(3)$  and the Pauli Principle produces two sets of time independent quantum states  $n(n+1)$  and  $n(n-1)$  where  $n$  is the principal quantum number. Oscillations between these states results in a one to one mapping with the Roberts-Janet Nuclear Periodic Table by interpretation of  $n > 0$  for condensed matter and  $n < 0$  for plasma prior to fusion. The mechanism provides a framework for periodic tables for every supernova by excluding mass number. A discussion of the occupation of s, p, d, f orbitals follows in which it is suggested that the Roberts-Janet Table is 5-dimensional.

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