

4<sup>th</sup> International Conference on

# ATOMIC AND NUCLEAR PHYSICS

October 26-27, 2018 | Boston, USA

## A quantum framework for the periodic and Roberts-Janet tables

**John Owen Roberts**  
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The mathematics of quantum physics from the standard model 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. In the lower half of the table occupation by bosons leads to increased energy density following recycling. Various outcomes are discussed..

### Biography

John O Roberts graduated in 1969 with a BSc (Hons) in Physics from The University of Liverpool. He has been an Open University Tutor for 30 years and a private tutor of Maths and Science. He is the author of *Those Infinities* and the *Periodic Table* (ISBN 978-0-9934667-3-1) He has had published an article **Proposed Link between the Periodic Table and the Standard Model**, July 2017 in the journal **Materials Science and Engineering** and an article **Implications of the Link between the Periodic Table and the Standard Model**, March 2018 published in the same journal.

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