Colloquium

Prospects for the 2nd century of nuclear physics

Prof. David Rowe
University of Toronto

Wednesday

April 8

4 P.M.

Rm 118 NSH

Nuclear physics and atomic physics began a hundred years ago with Rutherford's discovery of a point-like nucleus at the centre of an atom. This led to the Bohr-Rutherford model of the atom and the development of quantum mechanics. At that time, the nucleus was considered to be too complicated for serious analysis. Nevertheless, simple models were subsequently developed and proved to be successful, largely because of the Pauli exclusion principle which prevents nucleons from getting too close to one another. We now have a successful standard model of nuclei given by many-nucleon quantum mechanics with interactions derived from elementary particle physics. However, like other many-body systems, nuclei exhibit a wealth of emergent properties. The talk will emphasise the remarkable power of simple algebraic methods in understanding such a many-body system.

Refreshments @ 3:30 in 202 NSH

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