

## CHAPTER OVERVIEW

### 4: Nuclear Models

There are two important classes of nuclear models: single particle and microscopic models, that concentrate on the individual nucleons and their interactions, and collective models, where we just model the nucleus as a collective of nucleons, often a *nuclear fluid drop*. Microscopic models need to take into account the Pauli principle, which states that no two nucleons can occupy the same quantum state. This is due to the Fermi-Dirac statistics of spin  $1/2$  particles, which states that the wavefunction is antisymmetric under interchange of any two particles

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