

Study Guide I: SYMMETRY

What are the generators and what is their role in the analysis of Symmetry in Quantum Mechanics?

Explain the origin of quantum numbers.

What are Kramers doublets?

Why is the Slater determinant the proper function to describe fermions?

What is the source of the so-called exchange term? (see Problem II.4)

Which conditions have to be satisfied in order to have a function of good symmetry?

What are the source, interpretation and consequences of parity? (is there any connection with *physical world*?)