Nuclear and Particle Physics

Particle physics studies the nature of the particles that constitute matter and radiation. Although the word "particle" can refer to various types of very small objects (e.g. protons, gas particles, or even household dust), "particle physics" usually investigates the irreducibly smallest detectable particles and the fundamental interactions necessary to explain their behavior.

- **Book: Introduction to Applied Nuclear Physics (Cappellaro)**

This text covers basic concepts of nuclear physics with emphasis on nuclear structure and interactions of radiation with matter. Topics include elementary quantum theory; nuclear forces; shell structure of the nucleus; alpha, beta and gamma radioactive decays; interactions of nuclear radiations (charged particles, gammas, and neutrons) with matter; nuclear reactions; fission and fusion.

- Front Matter
- 1: Introduction to Nuclear Physics
- 2: Introduction to Quantum Mechanics
- 3: Radioactive Decay I
- 4: Energy Levels
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