

Introduction to Nuclear Physics

This six-lecture course aimed at junior graduate students will provide introductions to nuclear decay, structure, and reactions. An outline of the course is provided below.

1. Introduction
 - a) Terminology
 - b) Nuclear properties
2. Nuclear decay
 - a) Alpha decay
 - b) Beta decay
 - c) Gamma decay
3. Nuclear structure
 - a) Liquid drop model
 - b) Shell model
 - c) Collective models
4. Nuclear reactions
 - a) Types of reactions
 - b) Scattering theory
 - c) Optical potentials
 - d) Distorted Wave Born Approximation