

## **Part II**

# **Interaction Mechanisms and Detectors**

Part II of the book is dedicated to both the mechanisms of interaction between radiation and matter, and how those principles are exploited in the design and construction of modern detector devices. The material is presented through the description of each mechanism of interaction immediately followed by a review of the detection methods and technologies based on that particular mechanism. Ionisation is introduced first, underpinning a large number of detection techniques. Scintillation, electromagnetic and hadronic cascades, transition radiation, and neutrino interactions follow in the later chapters.