

## CHAPTER OVERVIEW

### 7: Radioactive Decay II

Radioactive decay is the process in which an unstable nucleus spontaneously loses energy by emitting ionizing particles and radiation. This decay, or loss of energy, results in an atom of one type, called the **parent** nuclide, transforming to an atom of a different type, named the **daughter** nuclide.

The three principal modes of decay are called the alpha, beta and gamma decays. We already introduced the general principles of radioactive decay in Section 1.3 and we studied more in depth alpha decay in Section 3.3. In this chapter we consider the other two type of radioactive decay, beta and gamma decay, making use of our knowledge of quantum mechanics and nuclear structure.

[7.1: Gamma Decay](#)

[7.2: Beta Decay](#)

Thumbnail: Beta particle emission of a nucleus.( Public Domain; [Inductiveload](#) via [Wikipedia](#))

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