Decay of Radioactive Nuclides

Radioactive decay is the emission of alpha, beta, or gamma rays from the atomic nuclei. Some rare decays are emission of proton, emission of two beta particles, and beta-delayed emissions of proton or alpha particle.

A parent nuclide ($^M_P$), after the emission of a particle, converts to a daughter nuclide ($^{^M_D}$), and the process is called disintegration. The rate of disintegration or is called radioactivity, and it is measured in disintegration per second (dps) or becquerel (1 Bq = 1 dps).

In all radioactive decay processes, the charge and the number of nucleons (proton and neutrons) are the same before and after the decay. This is the principles of conservation of charge and number of nucleons.

Regarding radioactive decay, the following aspects will be covered.

- Decay kinetics - variation of radioactivity of a sample in terms of time
- Decay types and conversion of nuclides in radioactivity
- Decay family and the nuclide chart for the organization of nuclide properties
- Decay energy in radioactive decay

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