

38 Carbon-14 decays into nitrogen-14 by emitting a β^- particle.

Which statement explains why the β^- particles are emitted with a range of different kinetic energies?

- A** The carbon-14 nuclei have slightly different masses.
- B** The emitted β^- particles have a range of different masses.
- C** The energy released in the decay process is different for each carbon-14 nucleus that decays.
- D** The energy released in the decay process is shared between the nitrogen-14 nucleus, a β^- particle and an antineutrino.