

22.01 - Recitation #4

- Please grab a snack, get up off the sofa, look at something that isn't a screen for 5 mins!
- Please turn on your video (if possible) and mute yourself.
- These slides are at:
bit.ly/2201Rec4

Outline + Intended Learning Outcomes (ILOs)

Half life

Decay const.

Activity

Activity (two nuclides)

Activity (i nuclides)

Half life

$$t_{1/2} = \ln(2)/\lambda$$

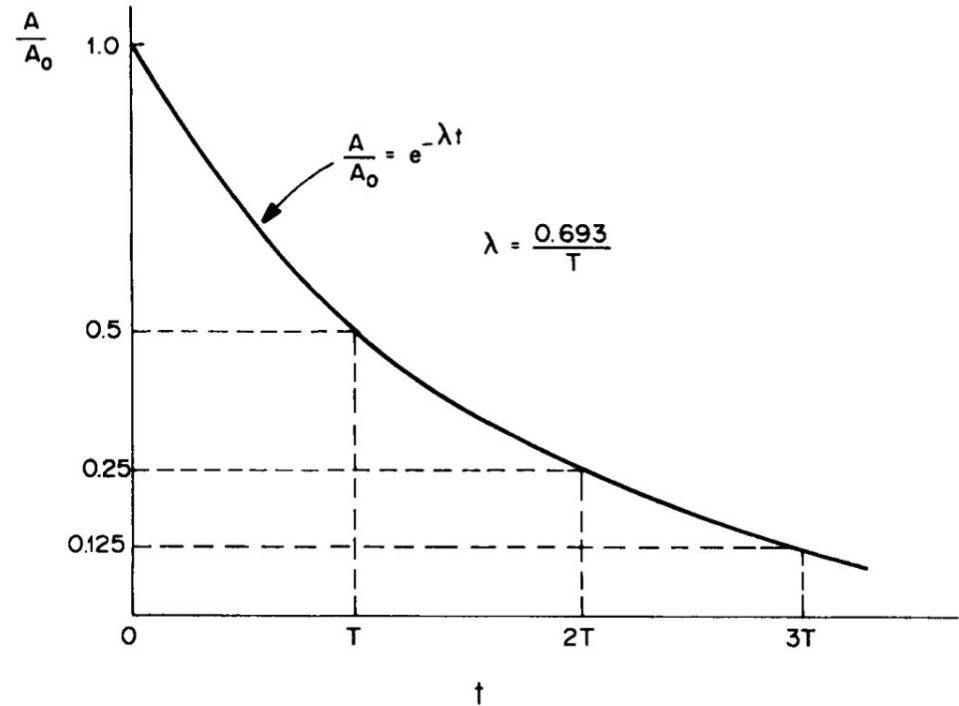


Fig. 4.1 Exponential radioactivity decay law, showing relative activity, A/A_0 , as a function of time t ; λ is the decay constant and T the half-life.

Decay constant

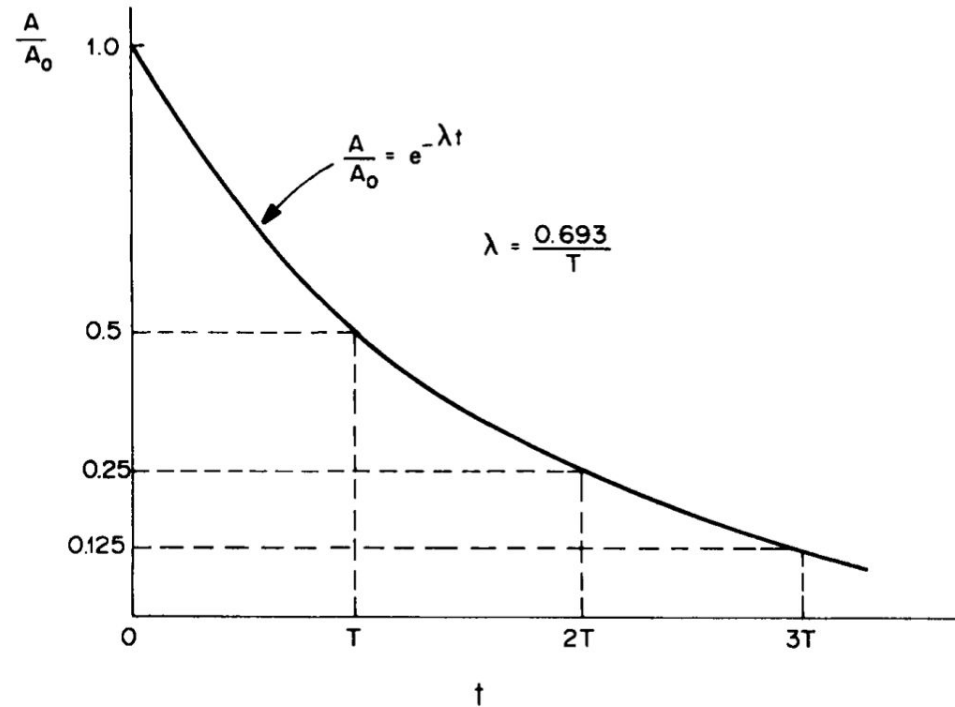


Fig. 4.1 Exponential radioactivity decay law, showing relative activity, A/A_0 , as a function of time t ; λ is the decay constant and T the half-life.

Activity

$$A(t) = A_0 e^{-\lambda t}$$

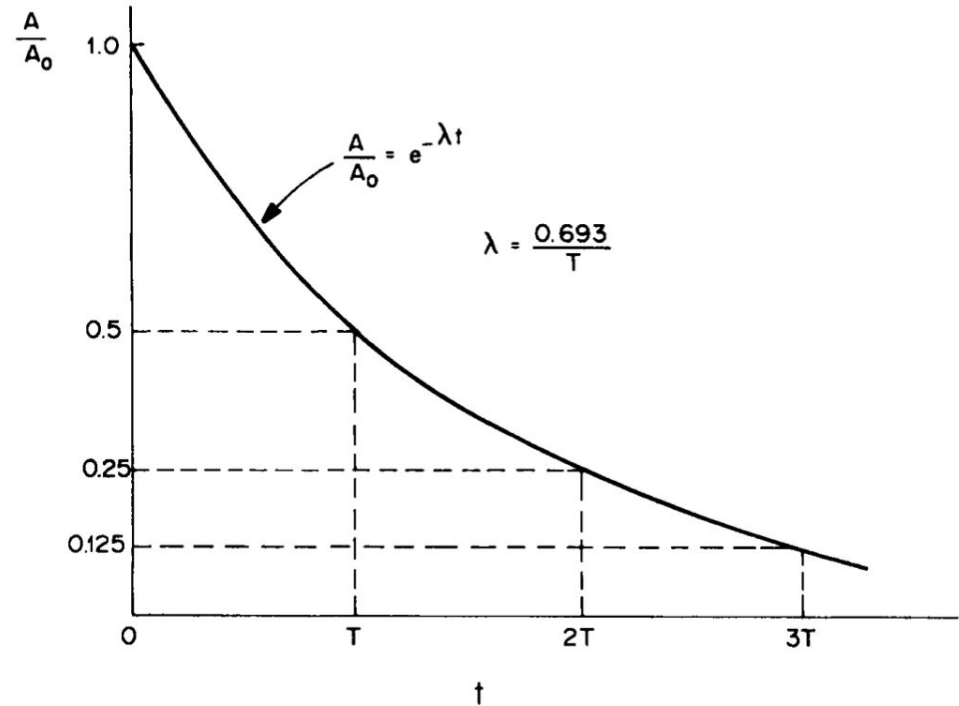


Fig. 4.1 Exponential radioactivity decay law, showing relative activity, A/A_0 , as a function of time t ; λ is the decay constant and T the half-life.

Specific Activity

Activity (two nuclides)

Activity (i nuclides)

“Activity Activity”

Last week at Recitation I had 22.01 Ci of an isotope

This week at Recitation I have 10.22 Ci of the isotope

What is the half life of the isotope?

Outline + Intended Learning Outcomes (ILOs)

Half life

Decay const.

Activity

Activity (two nuclides)

Activity (i nuclides)

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Office Hour 3-5pm Monday

Questions?

Please grab a snack, get up off the sofa, look at something that isn't a screen for ~X mins!

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22.01 Introduction to Nuclear Engineering and Ionizing Radiation

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