

Daily Physics Problem 7-19-2022

Isaac Creer

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1 Today's Problem

Neutrons produced in a nuclear reactor are thermal neutrons, because collisions reduce their kinetic energy to an average given by $K = \frac{3}{2}kT$, where k is Boltzmann's constant and T is their absolute temperature.

Part A: What is the kinetic energy of an average thermal neutron at an absolute temperature of 1230.0 kelvins?

Part B: What is the de Broglie wavelength of an average neutron at this temperature?