

Physics 203 Quiz: ID = 2

1. When an electron and a positron (its antimatter twin) collide they typically annihilate in a burst of electromagnetic energy. Assume all the energy from the mass of the pair (each equal to 9.11×10^{-31} kilograms) is converted into two photons of energy. What is the wavelength of these photons?

2.43×10^{-12} meters

2. An evil genius wants to shrink the Moon in order to steal it. He accidentally shrinks its below its Schwarzschild radius and the Moon is lost forever in a mini-black hole. What is this radius?

0.109 millimeters

