Physics 225a Problem Set 3

Harry Nelson

due Tuesday, Oct. 28 in class

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1. Using the value of atmospheric pressure at sea level, estimate the thickness of the Earth's atmosphere in grams per square centimeter. Then assume that the atmosphere consists exclusively of nitrogen, and estimate the number of Coulomb scatters that a relativistic muon would experience were it to pass through the Earth's atmosphere. Go for order-of-magnitude accuracy.