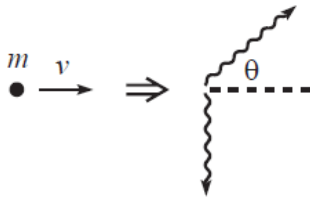


Physics IV
ISI B.Math
HW set 2
Total marks = 20

1. Two photons have energy E . They collide at an angle θ and create a particle of mass M . What is M ?(5)



2. A mass m moving at speed v decays into two photons. One photon moves perpendicular to the original direction, and the other photon moves off at an angle θ to the original direction as shown in the above figure. If $\tan \theta = \frac{1}{2}$, find the value of v/c (5)
3. Show that the sum of two future pointing timelike four vectors is future pointing timelike.(5)
4. Show that an isolated electron cannot emit or absorb a photon (5)