

**Set 12 – due 26 April**

“All composite objects decay. Strive diligently.” – the Buddha

- 1) [15 points] Jackson 14.21 Use Bohr-model values for the radius and velocity.
  
- 2) [20 points] Jackson 15.4. Begin with eqns 15.1-15.2 and set the  $\beta_j$ 's to zero, and let the  $\beta'_j$  be the velocity of either particle in the decay. Part (a) is trivial. Watch the sign of the interference term carefully! You'll have to make a reasonable assumption to get from  $dI/d\omega$  to the fraction of energy radiated as photons. Also, does Jackson tell you that  $m_\pi = 140$  MeV,  $m_e = 0.511$  MeV?