

362L Homework set 2**Feb. 6, 2019**

[“H & G” refers to our textbook. This assignment is due in a week and a half; that is, it is due in class on Feb. 18. Show a *complete solution* to each question; for example, if you need to use some result from relativistic kinematics, derive it from the basic concepts, explaining things in your words. Many of the questions are quite simple and straightforward. Where specific information about various particles and their “intrinsic” quantum numbers might be needed, consult reliable and up-to-date on-line sources.]

(1) 5.45 in H & G.

(2) (a) 6.27 in H & G.

(b) 6.29 in H & G.

(3) Under what conditions can a neutral particle have a charge distribution and a magnetic moment? Be specific. Under what conditions would it be strictly impossible for a neutral particle to have a charge distribution and magnetic moment?

(4) 7.11 in H & G.

(5) 7.14 in H & G.

(6) (a) 8.13 in H & G

(b) 8.15 in H & G.