

Homework #10 March 9, 2016

Problems (HH= Hook & Hall)

#1 HH 4.4

#2 HH 5.2

#3 HH 5.3

#4 Verify Table 7.2 (Here L,S, J are given in the language of Fig 7.2). Check the values of  $p$  given in column 5- by computing the Lande  $g$  value.

#5 Check that the Brillouin function (7.16) reduces to  $\tanh()$  for spin half- as we expect to. (Requires using addition formulas :  $\sinh[2x] = 2 \sinh[x] \cosh[x]$ ;  $\cosh[2x] = 2 \cosh[x]^2 - 1$  etc)