FY3403 Particle physics

Problemset 9 fall 2008

NTNU

Institutt for
fysikk

Problem 16. The light mesons

Do problem **5.12** in Griffiths, *Introduction to elementary particles* (second edition; **5.22** in the first edition).
Note a misprint: Equation 5.46 should be 5.48.

Problem 17. States of Charm and Beauty

a) Do problem **5.13** in Griffiths (**5.23** in the first edition).

Note the same misprint: Equation 5.46 should be 5.48.

All necessary particle data can be found on the webpage

`http://pdg.lbl.gov/2007/tables/contents_tables.html`

Consult in particular the meson table (save a tree, don't print out all its 110 pages). Note that the D_s mesons used to be called F.

b) Check the baryon table on the webpage

`http://pdg.lbl.gov/2007/tables/contents_tables.html`.

How many of the expected baryons with c- and/or b-quarks have been discovered?