

Assignments for Week 14

Date	Reading	Assigned Problems
Tuesday Apr. 24	Regular Supplement Chapter 11	1, 3, 4, 5, 7, 8, 9, 11, X5 below
Thursday Apr. 26	Regular Supplement Chapter 12	1, 2, 5, 6, 9, A85
Monday Apr. 30	Hand-In Set #12	Supp CH 11: 2, 6, 10, 12 Supp CH 12: 4, 7, 8, X6 below

Problem X5: Draw a complete reaction diagram for the following interaction:

$$e^+ + \Lambda \longrightarrow \Sigma^+ + \bar{\nu}_e.$$

In the diagram, be sure to label all messengers, and label all particles with color/anti-color where relevant.

Problem X6: The Higgs boson acts as a messenger particle in the Higgs mechanism. Recently, the mass of the Higgs boson was measured to be $125 \text{ GeV}/c^2$. In the early universe, real Higgs bosons could be produced in random collisions. Determine the latest time after the Big Bang that Higgs bosons could be easily made from collisions.