Physics 492 Homework XI, due Fri Apr 4

Reading: Chapters 10 and 12.1-2

Problems:

1. One of the strange particles observed in early bubble chamber experiments was $\Xi^-$, called the "cascade" particle. It was produced in the reaction

$$K^- + p \rightarrow K^+ + \Xi^-,$$

and it decayed through the cascade

$$\Xi^- \rightarrow \Lambda^0 + \pi^- \text{ followed by } \Lambda^0 \rightarrow p + \pi^-.$$

Draw Feynman diagrams with quarks and gluons for the production and decay processes.

2. Williams, Problem 10.7.

3. Williams, Problem 10.8.

4. Williams, Problem 10.9.


Reminder: The first draft of your term paper is due on Friday, April 4.