Announcements

- Exams should be graded by this afternoon or evening. Look for email announcement.
- Homework and objectives for Unit 4 on handouts page, along with a particle data sheet. We will give you a printout of the data sheet in problem session tomorrow.
- We're back to the usual weekly schedule for the last two weeks.
- Lab practicum next week.
- Final Exam is Friday, May 9 from 3:30 – 6:30 pm

"The electron: may it never be of any use to anybody!"

– J. J. Thomson, the discoverer of the electron

Lecture 22 — Concept Test 1

A particle has spin 0 and experiences the strong force. What type of particle is this?

1. lepton
2. meson
3. baryon
4. messenger
5. quark
6. anti-particle

Lecture 22 — Concept Test 2

A free neutron decays via the process $n \to p + e^- + \overline{\nu}_e$. Is it possible for a free proton to decay via the process

$$p \to n + e^+ + \nu_e?$$

1. Yes.
2. No. It violates L_e conservation.
3. No. It violates B conservation.
4. No. It violates charge conservation.
5. No. It violates energy conservation.

Lecture 22 — Concept Test 3

The Ξ^0 (cascade) baryon has a charge $Q = 0$ and a strangeness $S = -2$. What are the quark constituents of this particle?

1. uss
2. dss
3. uds
4. dds
5. uus
6. sss