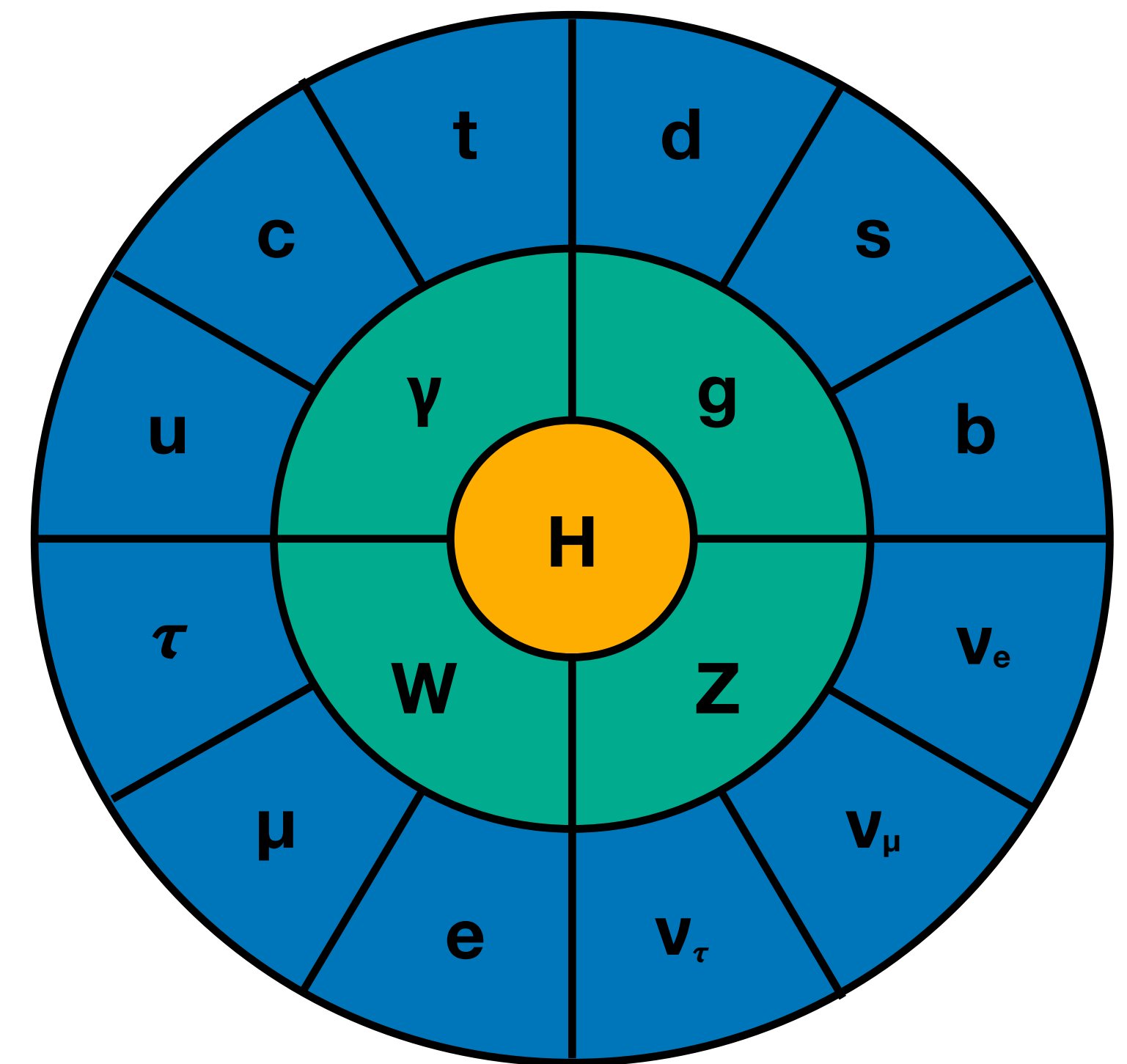


Particle Physics II - Beyond the Standard Model

Supersymmetry



Topics for Student Presentations

... 12min presentation + 3min Q&A

1. **Supersymmetry:** an overview of the concept and its implications for particle physics.
2. **Higgs physics:** probing the Higgs sector beyond the Standard Model.
3. **Extra dimensions:** exploring the possibility of additional dimensions beyond the three we observe.
4. **Dark matter:** the search for evidence of non-luminous matter in the universe and its implications for physics beyond the Standard Model.
5. **Grand unification:** theories of unifying the fundamental forces of nature at high energies.
6. **Neutrino mass:** theories and experiments aimed at understanding the nature of neutrino mass and its implications for beyond the Standard Model physics.
7. **Axions:** an overview of the hypothetical particle and its potential role in solving several problems in particle physics.
8. **Baryogenesis:** exploring theories for why the universe contains more matter than antimatter, a fundamental problem in cosmology and particle physics.
9. **Technicolor:** a theory of beyond the Standard Model physics that seeks to explain the masses of fundamental particles without the use of the Higgs boson.
10. **Leptogenesis:** exploring the possibility that the asymmetry in the abundance of matter and antimatter in the universe arose from the decay of heavy neutrinos.