

Ideas for Oral Presentations

Miscellaneous Topics

1. How is α measured? He spectroscopy, g-values, quantum Hall effect, Josephson effect, etc.
2. The mysterious Sokolov effect (slit interaction).
3. Check-out a video from the list; watch the lecture, show the video in class with comments.
4. Atomic physics tests of nonlinear quantum mechanics.

Geonium

5. Quantum mechanics of geonium.
6. Geonium provides the most stringent tests of CPT.
7. Do geonium experiments provide evidence for compositeness of the electron and its finite radius?
8. The Zeno "paradox" (watched pot never boils): how can one observe a quantum state without collapsing it?

Light-Induced Drift (LID)

9. LID and chemically peculiar stars.
10. Nuclear spin modification conversion in molecules studied by LID.

Trapping and Cooling

11. Sysiphus cooling.
12. Evaporative cooling.

Bose-Einstein Condensation

13. Interference between condensate clouds and the Josephson effect.
14. Interaction of a condensate with photons.