Physics GRE Prep Errata

October 13, 2011

QM Review

- Spin question # 3: changed j from "total spin" to "total angular momentum."
- Spin question #5: fixed typo in last sentence of solutions, "triplet" $\rightarrow$ "singlet"

Tips and Tricks review

- "Numbers and Estimation" section: changed "ionization energy" to "ground-state energy" and "binding energy" as appropriate

Exam 1.1.1: revised from version 1.0.0

- Problem 5: changed "ionization energy" to "ground-state energy"
- Problem 30: $|m|$ can be less than or equal to l, not strictly less than.
- Problem 33: fixed error in solutions, beat frequency is $f_1 - f_2$, not $(f_1 - f_2)/2$
- Problem 46: fixed sign error in answer choices, corrected factor of $1/2$ in rotational kinetic term
- Problem 56: specified that the rocket starts at zero velocity
- Problem 77: rephrased to eliminate ambiguity in origins of S and S'
- Problem 99: rephrased to clarify normalization of ψ

Exam 1.1.1: existing errors

- Problem 67: answer choices have incorrect units: each choice should be proportional to r^2, not r

Exam 2.1.0: revised from version 2.0.0

- Problem 9: fixed answer choices and solutions to reflect correct resonant frequency for an LC circuit
- Problem 10: changed diagram and answer choices
- Problem 11: changed solutions to reflect correct C_p/C_v for ideal gas
- Problem 14: there were two correct answers, this has been fixed
- Problem 28: answer said that image was to the left of lens B, not the right
- Problem 33: explanation given in the solutions was incorrect, added a discussion of this point
- Problem 39: specified that this is a 1-dimensional problem
- Problem 40: changed "total spin" to "total angular momentum"
- Problem 46: omitted a factor of 1/2 in the rotational kinetic term in the answer choices and solutions
- Problems 53-54: changed answer choices and solutions using correct distance to center of triangle
- Problem 49: clarified where student B is standing with respect to A
- Problem 59: cleaned up diagrams in answer choices to fix ambiguity over continuity of $d\psi/dx$
- Problem 79: specified counterclockwise as viewed from +z
- Problem 80: fixed solutions using correct relation between P and T
- Problem 82: changed "center of mass" to "center of momentum"

Exam 3.1.0: revised from version 3.0.0

- Problem 2: solution was incorrect
- Problem 3: fixed typo in solutions where correct answer was off by factor of 10
- Problem 6: corrected ordering in answer choices and solutions
- Problem 14: changed scattering angle from 30° to 60°
- Problem 19: fixed units in problem statement and answer choices

- Problem 29: fixed typo "minimum" $\rightarrow$ "maximum"
- Problem 32: fixed typos in problem statement and answer choices
- Problem 37: added simpler free expansion relation $\Delta S = nR\ln(V'/V)$ to solutions
- Problem 47: fixed typo by adding f to each answer choice.
- Problem 60: reworded question to ask for ratio of temps at radius $2R$ to radius R, not vice versa
- Problem 78: adjusted wording in solution to match problem statement
- Problem 84: changed "charge density" to "current density," fixed units of answer choices