

**Phys 410**

**Spring 2013**

**Homework #12**

**This Homework will NOT be collected**

All problems are from Taylor, *Classical Mechanics*.

- 1) Problem 15.13 Apparent rotation of a moving meter stick
- 2) Problem 15.15 Inverse Lorentz transformation
- 3) Problem 15.16 Differential form of the Lorentz transformation
- 4) Problem 15.17 Lack of absolute simultaneity
- 5) Problem 15.22 Sideways velocity transformation
- 6) Problem 15.54 Classical momentum is not conserved in a collision
- 7) Problem 15.57 Radioactive decay mass change
- 8) Problem 15.58 Relativistic speed
- 9) Problem 15.61 Relativistic energy and speed
- 10) Problem 15.62 Relativistic momentum and speed