

Physics 323. Problem set V. Thursday, May 29, 2003

DUE TUESDAY, JUNE 3, 2003

1. Jackson, 16.8.
2. Jackson, 16.10
3. Extra credit: Jackson, 16.11

Comments: Jackson 16.8 is based on Jackson 16.7. The expression in 16.7 is just the same as the one presented in class, but expressed in terms of the four vector momentum, instead of the velocity. Hint for Jackson 16.8: Remember that the vector component of the four vector Force is the usual force multiplied by a factor γ .

Jackson 16.11 is a simple but interesting application of the relativistic equation 16.8, and is based on the motion in a constant electric field that was discussed in class, and was part of the solution of the Problem Set 1.