

**ADVANCED DYNAMICS — PHY-4241/5227**

**HOMEWORK 8**

(February 23, 2004)

Due Friday, February 27, 2004 (in the lecture)

**PROBLEM 19**

D mesons have a (mean) lifetime of  $1051 \times 10^{-15}$  s. Assume such a meson is created in a particle collision at Fermilab and moves at  $0.995c$  with respect to the Lab frame. Compute the (mean) distance travelled by such a D meson.