

PROBLEM

Due by 10/18/05

1. Show that the threshold energy in the lab. frame for the reaction



is around 289 MeV.

2. Calculate what fraction of pions of kinetic energy $T = 255$ MeV survive a 12m long flight path. Use $\tau_\pi = 2.6 \cdot 10^{-8}$ sec.

3. Calculate the energy of a pion in the lab which has been scattered off a stationary proton at $\Theta = 35^\circ$. The incoming pion energy is 195 MeV.