

Positron Annihilation

The "Gamma Ray Laser"
Joseph Barber

Agenda

- ◆ Positron Annihilation
- ◆ DEER System
- ◆ Questions



The Basics

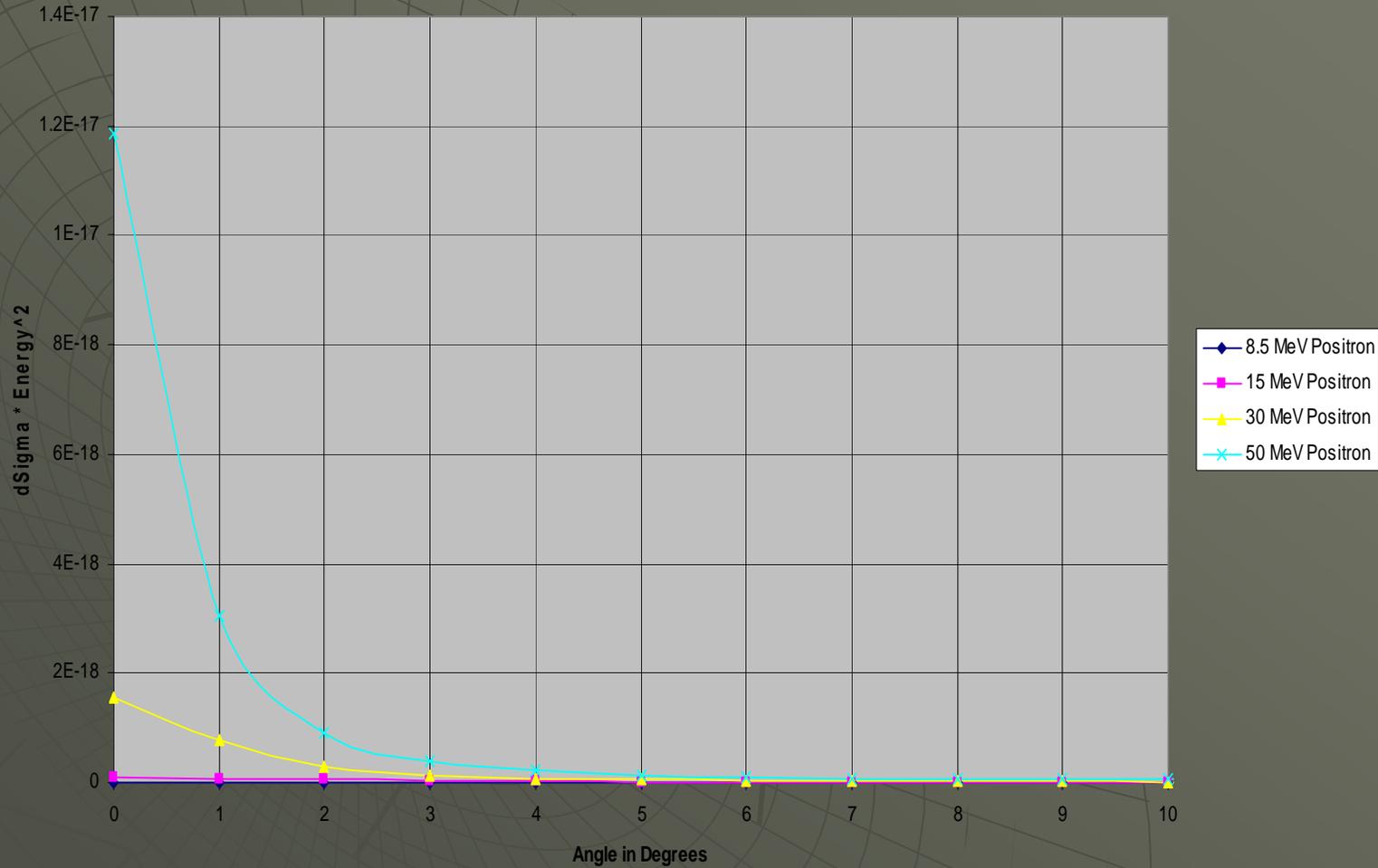


- ◆ Positron: Positive electron (antimatter)
- ◆ Cross Section: Probability that a collision will occur
- ◆ Differential Cross Section: Probability that a particular outcome will occur based off of one continuous variable

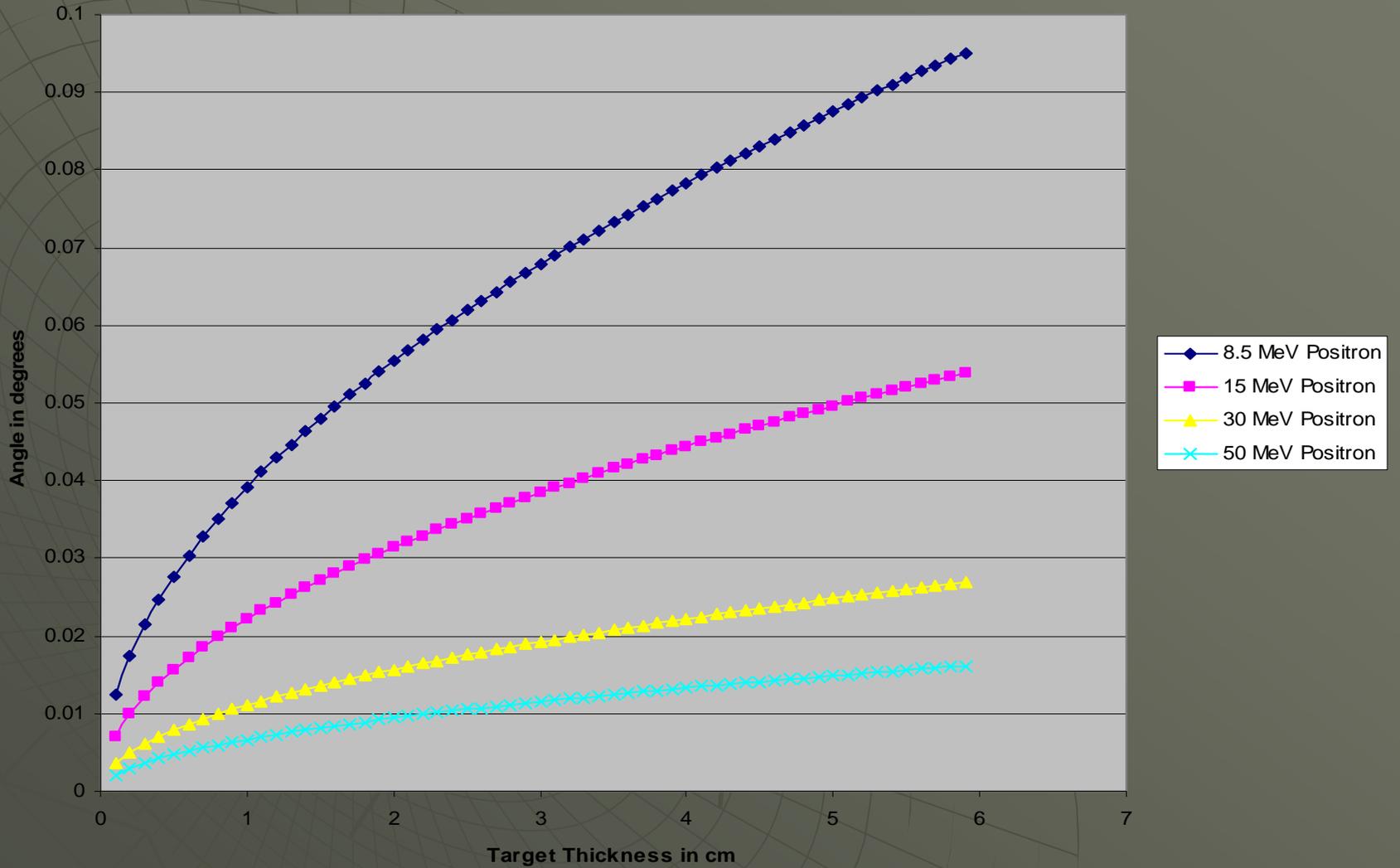
What we have done:

- ◆ BLUF: REEEEAAAALLLLY BIG EXCEL FILE!
- ◆ Calculated the differential cross section w/respect to angle
- ◆ Calculated the effects of Multiple Scattering

dSigma --> Angle

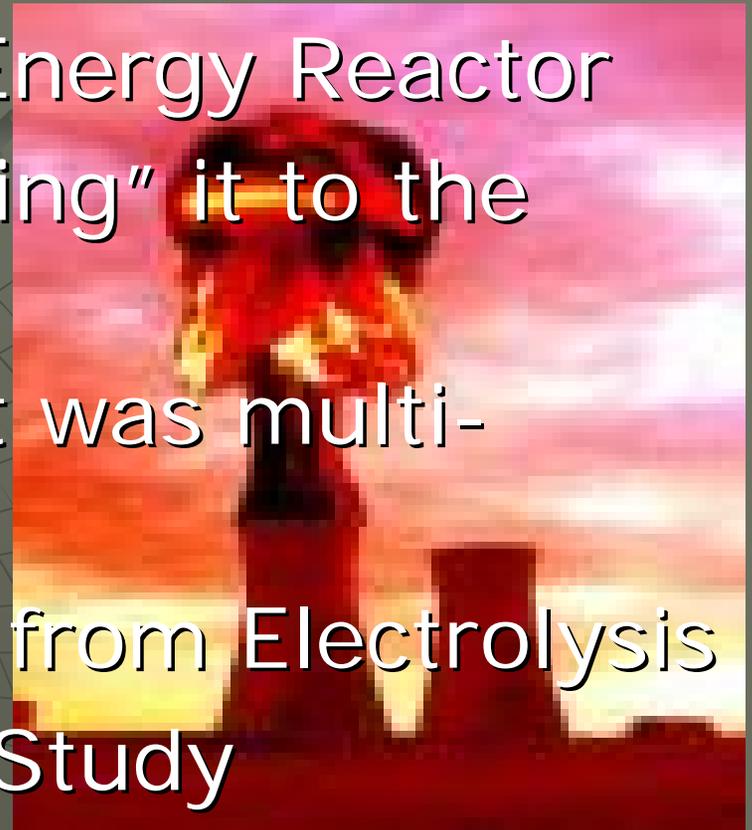


Multiple scattering in hydrogen target



DEER

- ◆ Deployable Electric Energy Reactor
- ◆ Concerned with “selling” it to the military
- ◆ More marketable if it was multi-function
- ◆ Producing Hydrogen from Electrolysis
- ◆ Economic feasibility Study



Questions?

