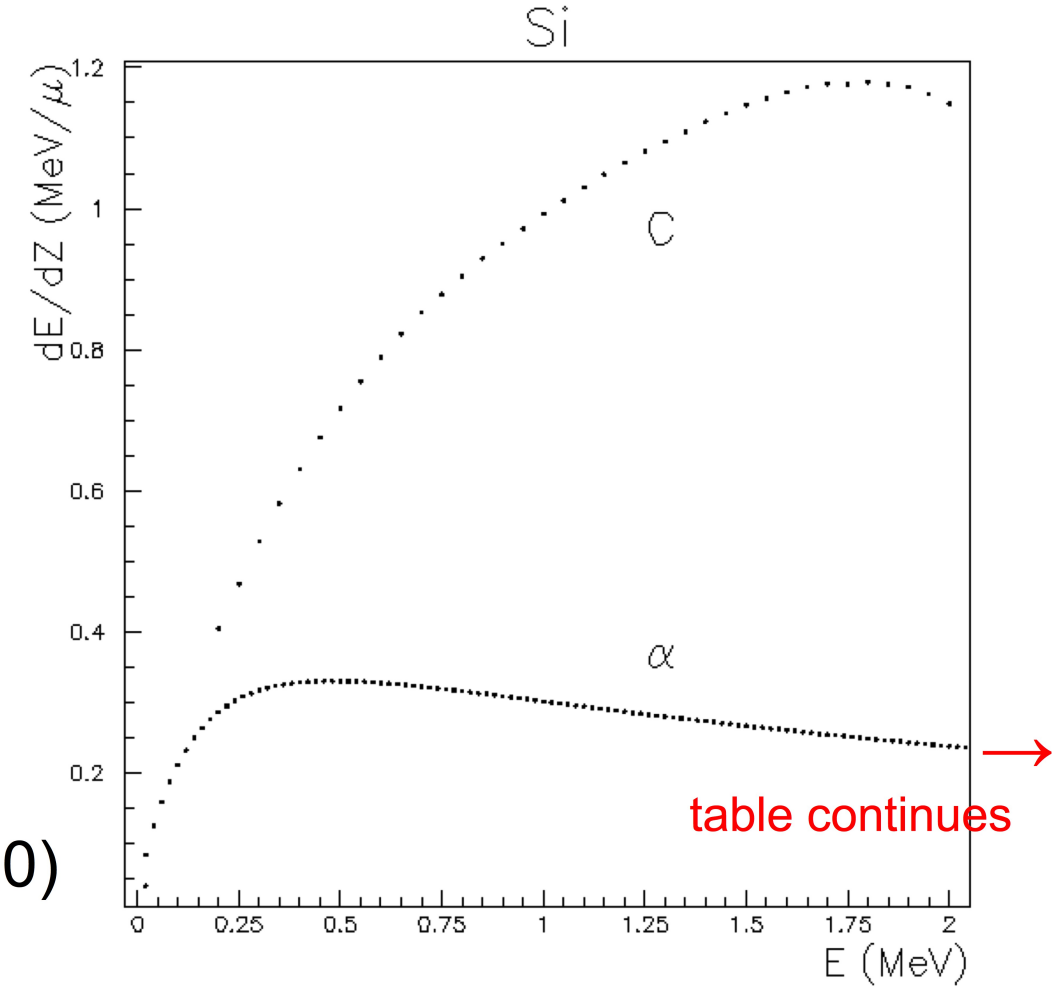
^{12}C & α energy deposition in Si

special polar. mtg. 08.07.13

dE/dz vs. E from measurements & parameterizations

- α in Si from NIST: http://www.nist.gov/pml/data/star/index.cfm
- ^{12}C in Si from D.C. Santry and R.D.Werner, NIM B53 (1991) 7
  (linked on http://www4.rcf.bnl.gov/~cnipol/Documentations/Documentation.html)

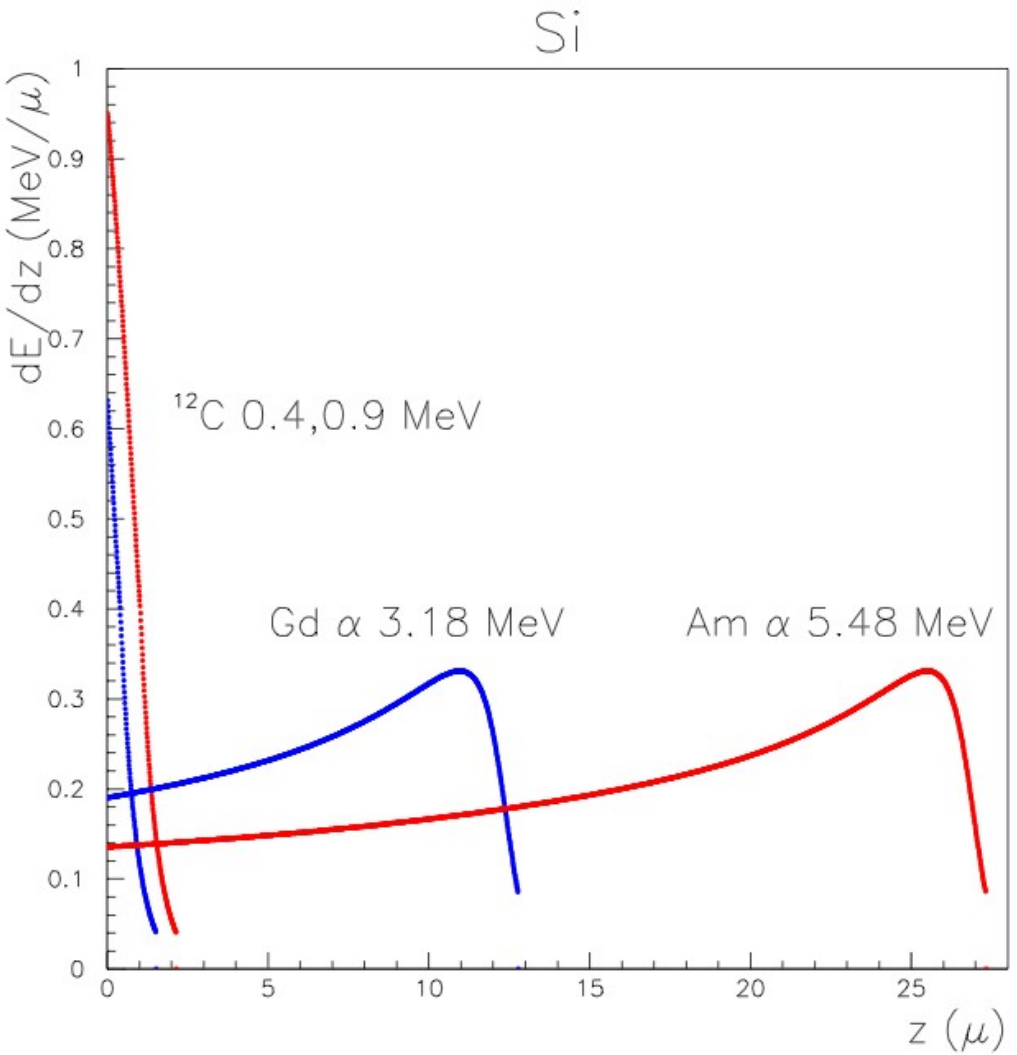


dE/dz vs. z:

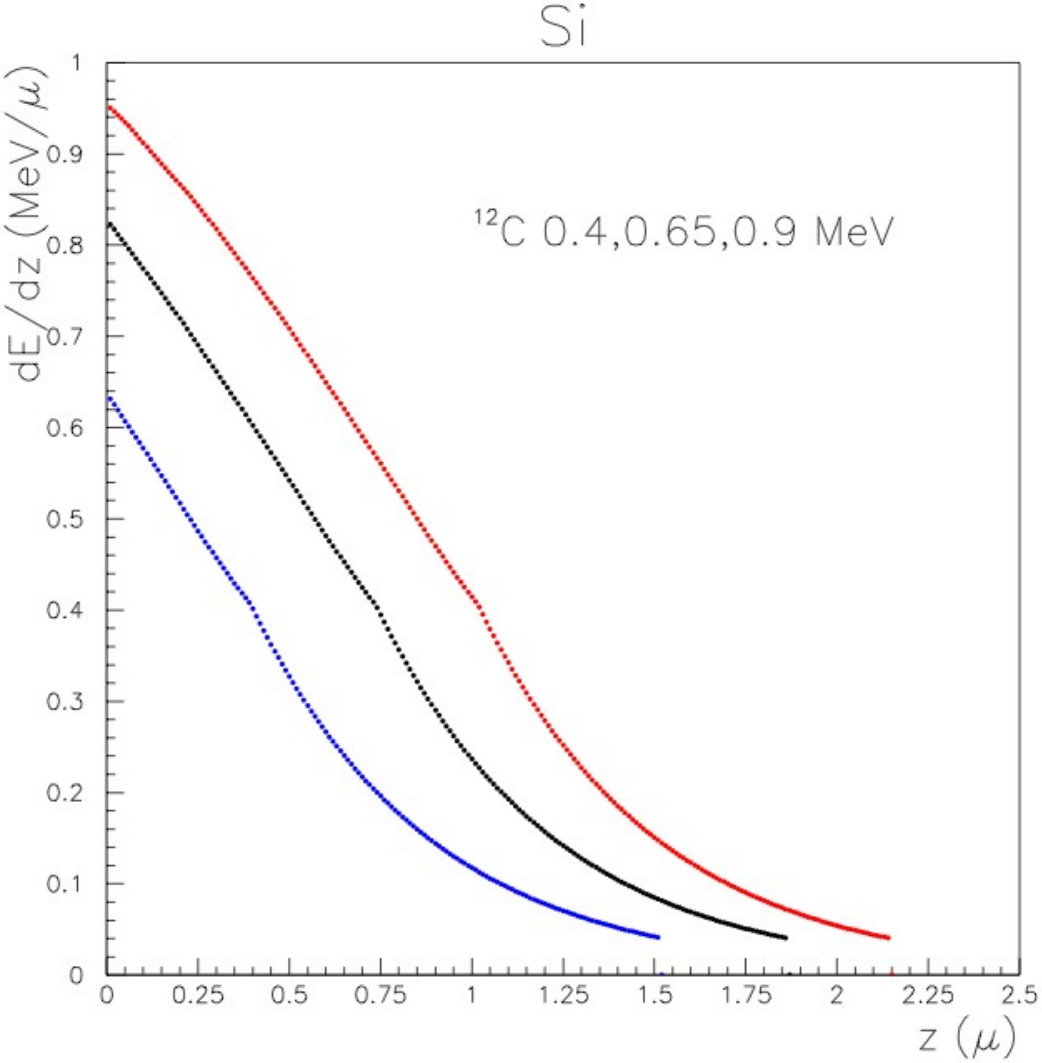
- initial E_{init}
- dE/dz @ E_{init} interpolate table values; E_C < 200 keV extrapolate lowest measurement linearly → (0,0)
- iterate in 10 nm steps
- quit when E < 20 keV

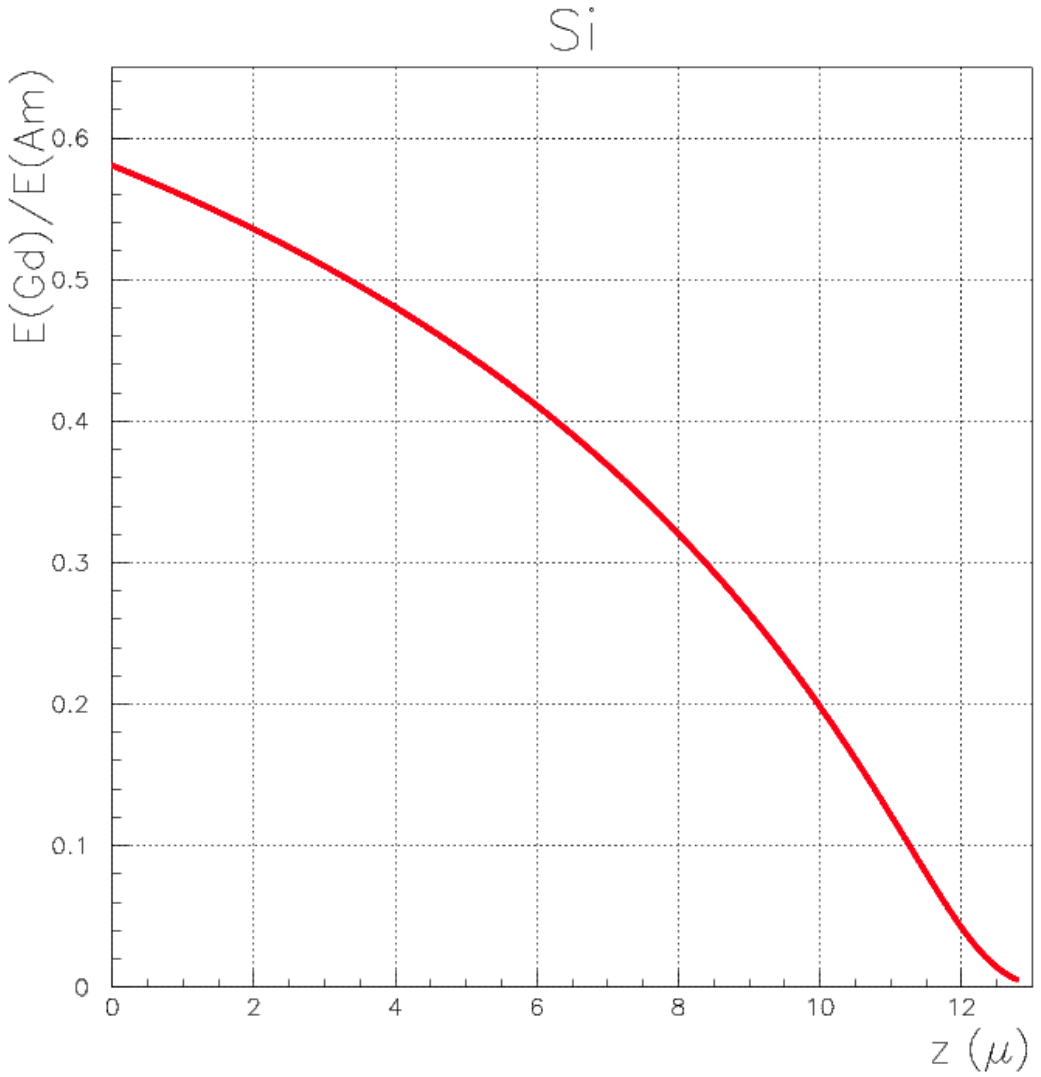
^{12}C & α energy deposition in Si

- ^{12}C & Gd,Am α's:



- ^{12}C zoom:



Ratio Gd/Am α energies in Si

- Ratio Gd/Am α energies vs. depth *z* in Si
  is ratio of measured Gd/Am energies for dead layer thickness *z*