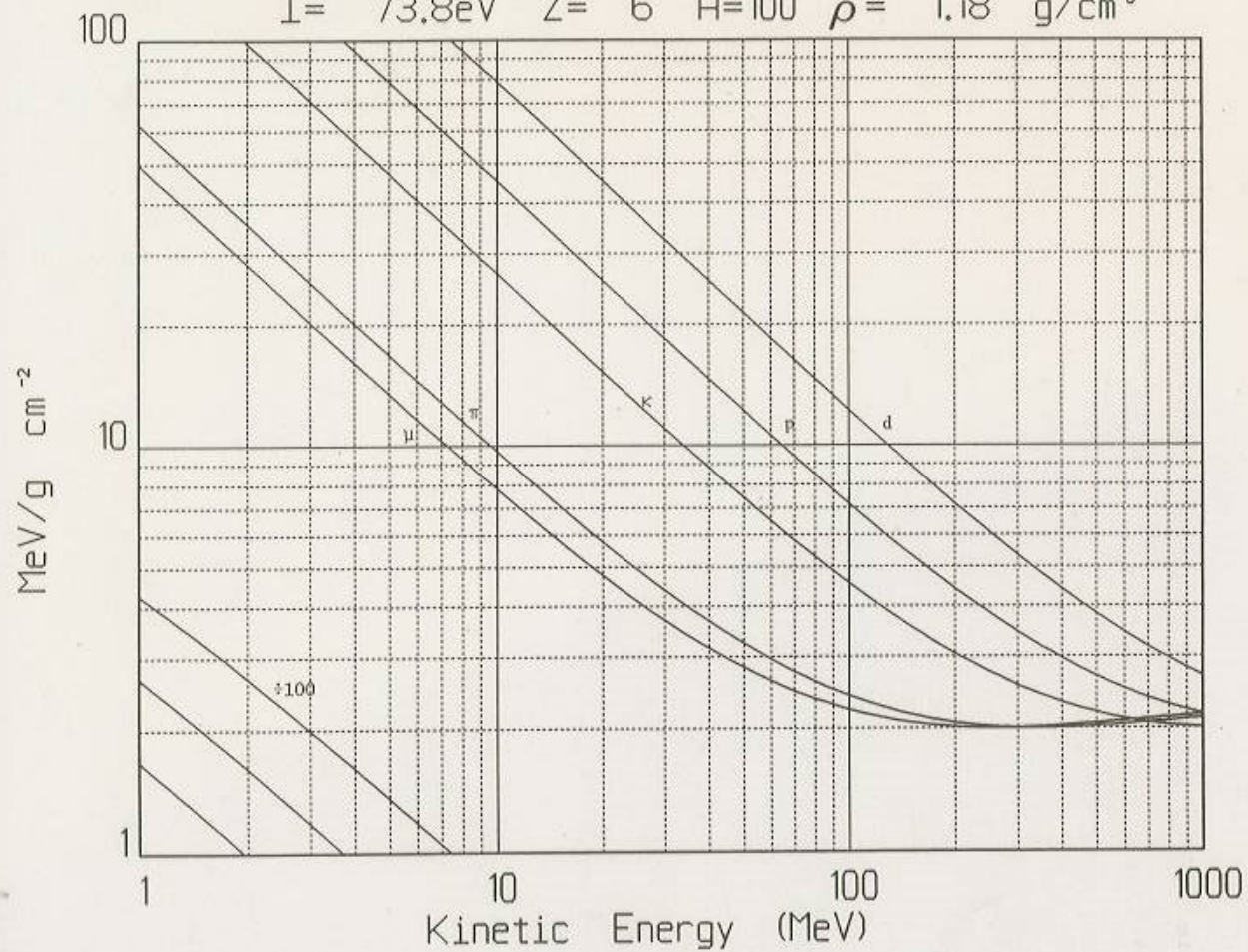
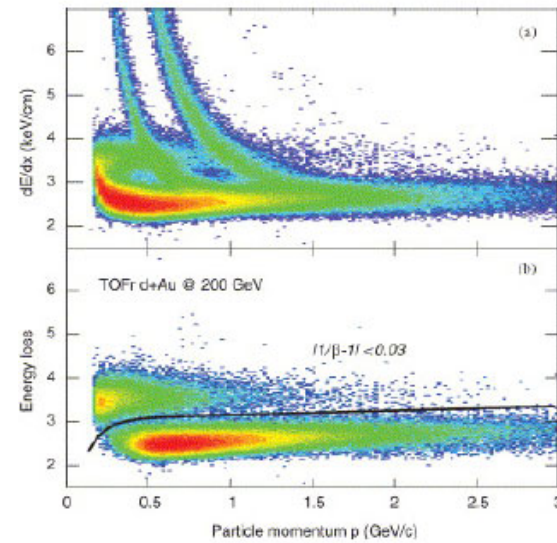
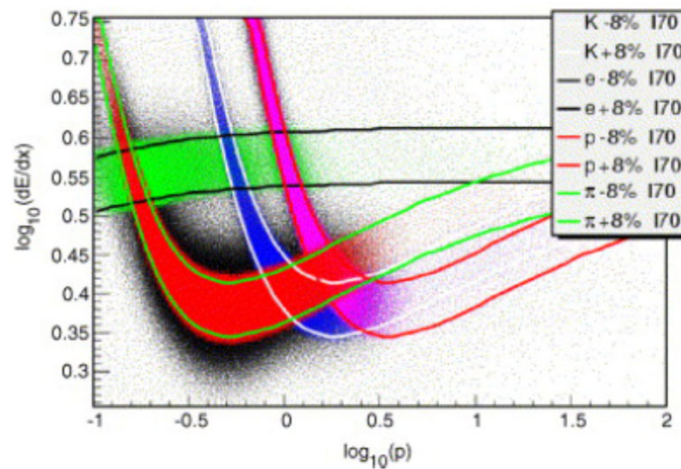


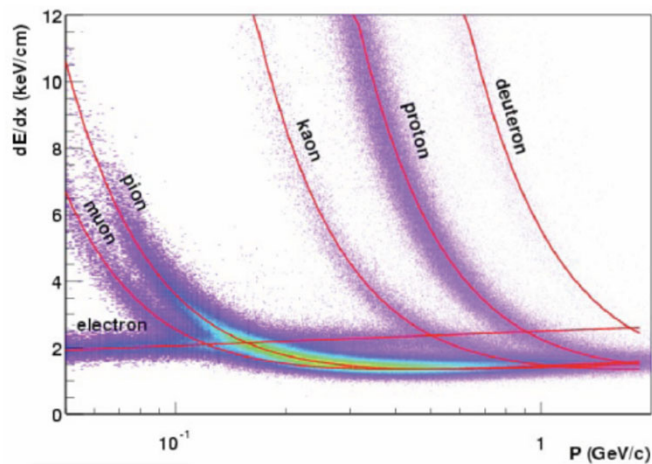
Stopping power in Lucite
 $I = 73.8\text{eV}$ $Z = 6$ $A = 100$ $\rho = 1.18\text{ g/cm}^3$





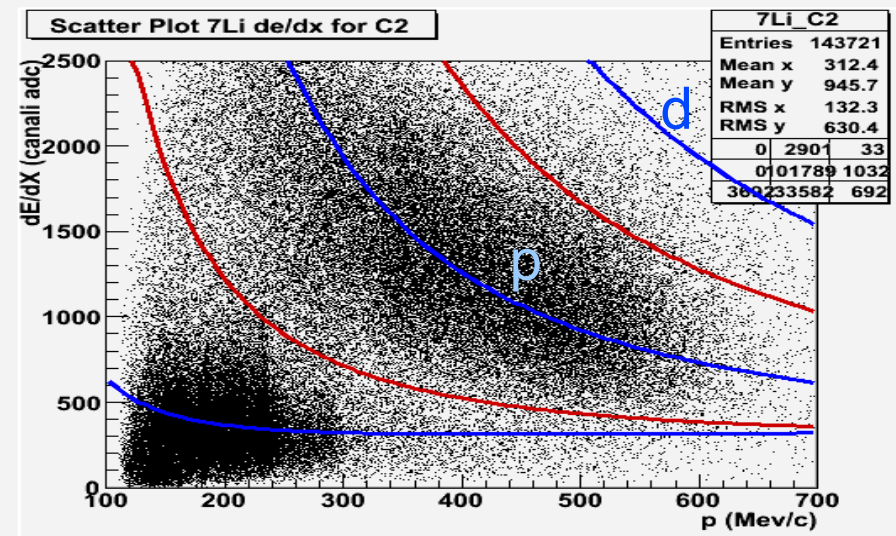
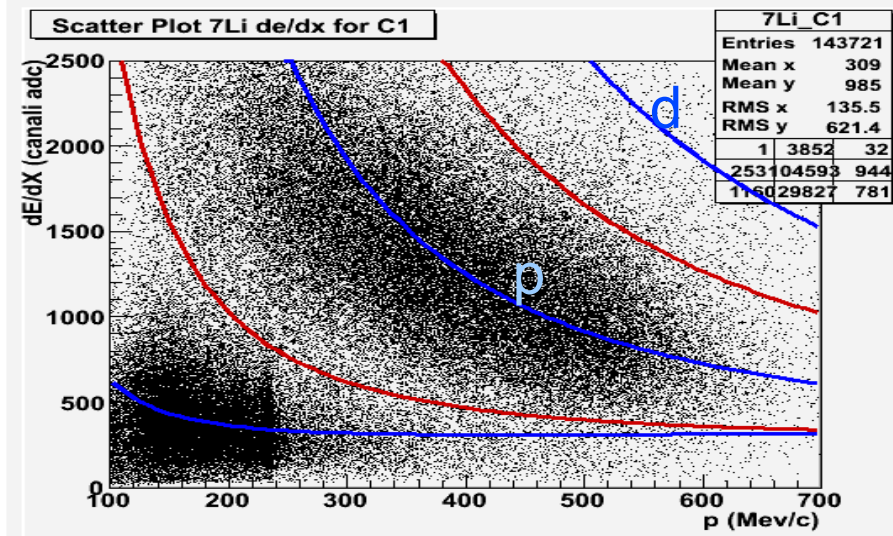
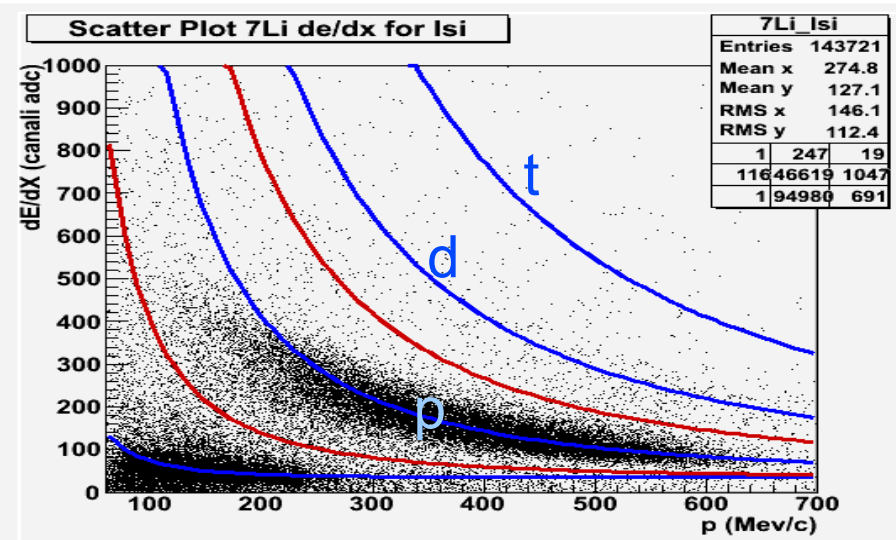
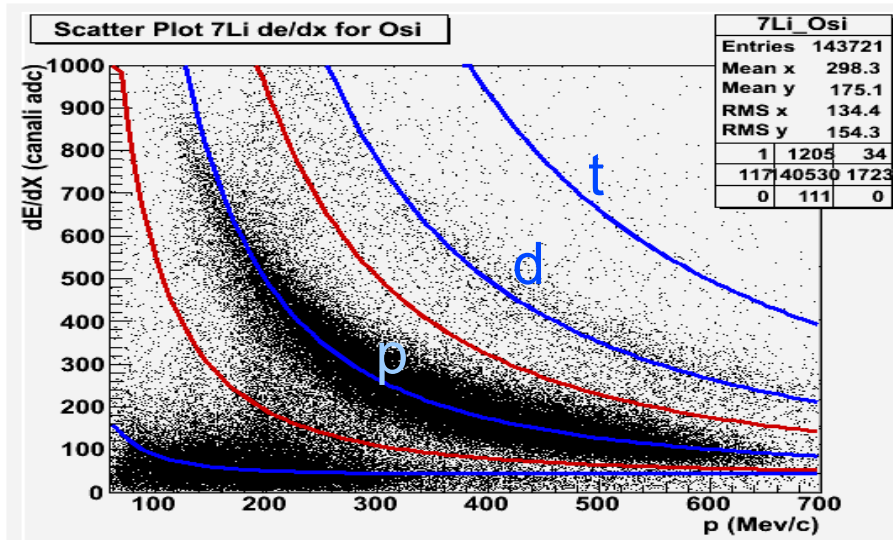
dE/dx in the TPC vs. particle momentum (p) without (upper panel) and with (lower panel) TOF velocity cut of $|1/\beta - 1| < 0.03$.

- STAR Time-Projection Chamber (TPC):
10% Methan / 90% Argon (2mbar above atm. pressure)



Discriminazione particelle

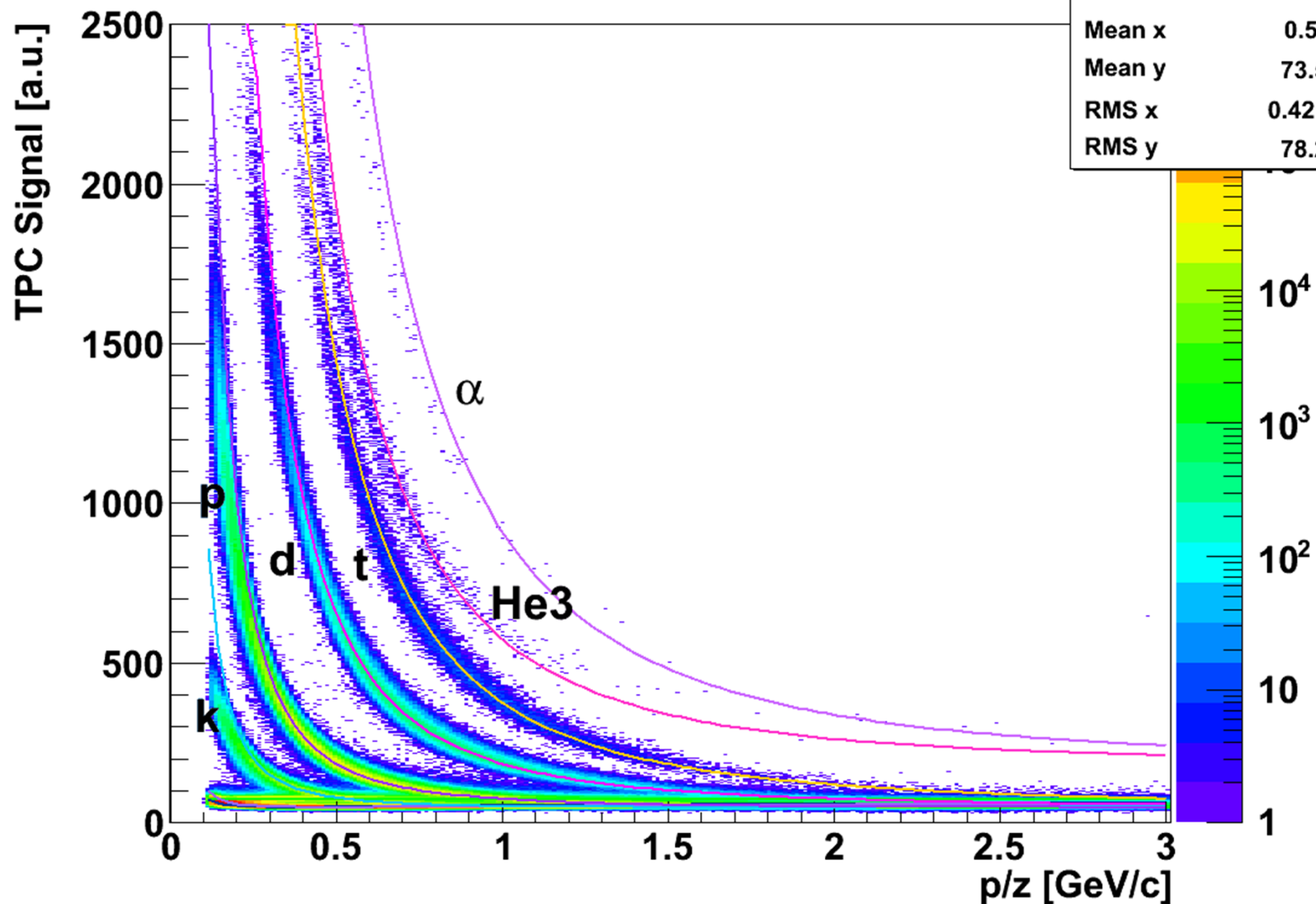
Selezione per pioni, protoni, deutoni e trizi



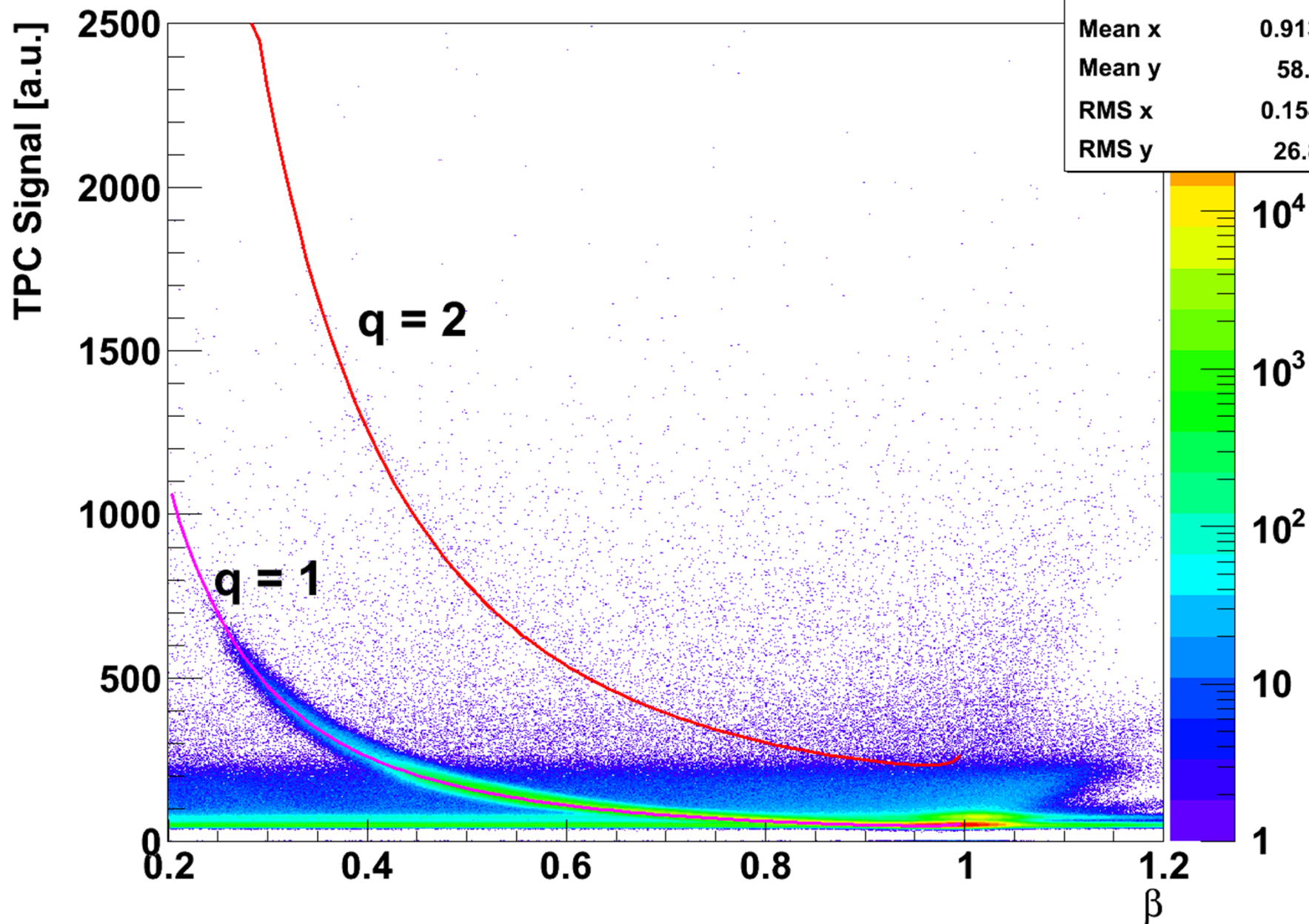
BetheBlochTPC

fhBB

Entries	3.033383e+08
Mean x	0.541
Mean y	73.57
RMS x	0.4212
RMS y	78.27

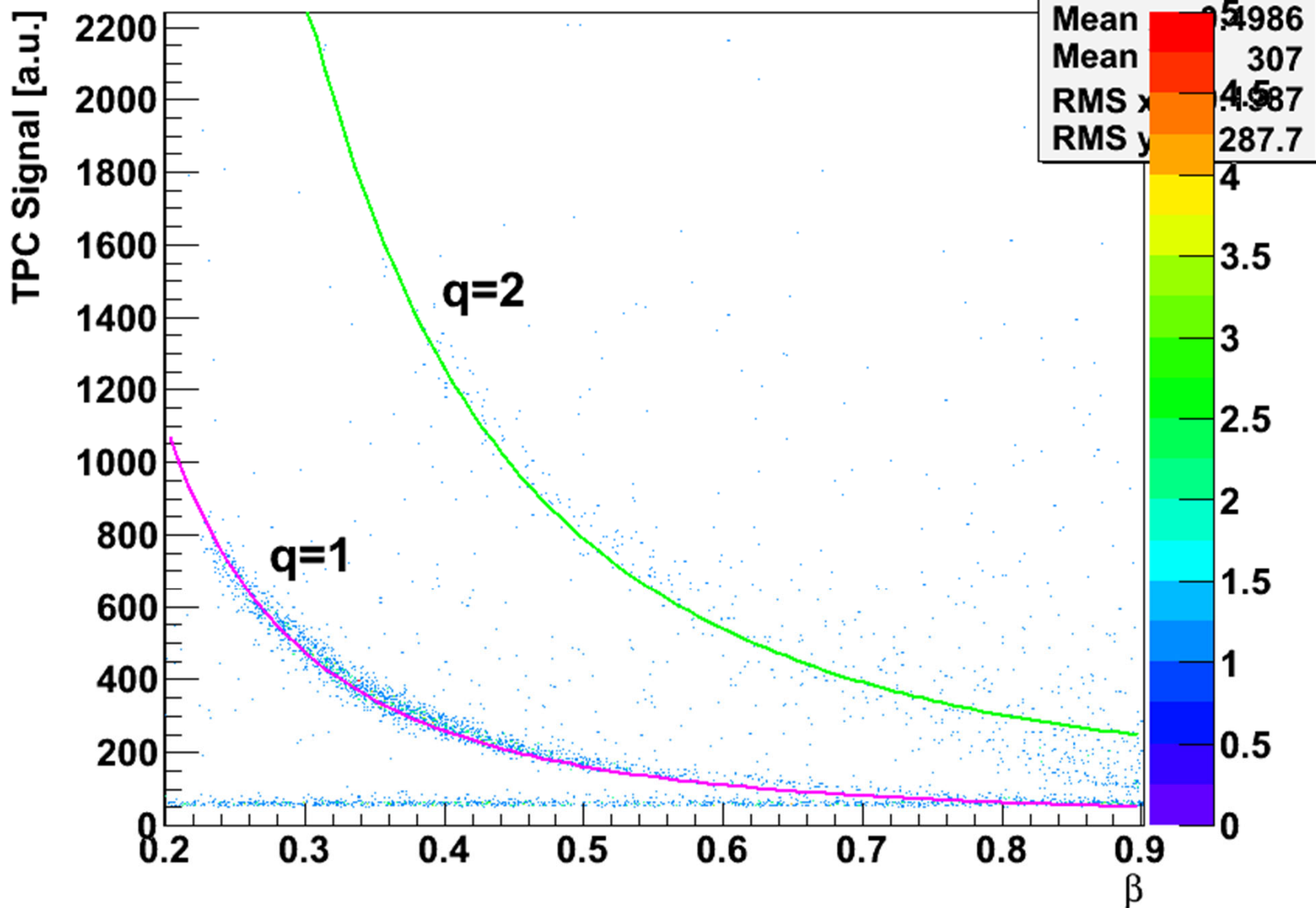


fBetavsTPCsignalPos



fBetavsTPCsignalPos	
Entries	3.988012e+07
Mean x	0.9133
Mean y	58.71
RMS x	0.1547
RMS y	26.86

Beta Vs TPCSignal

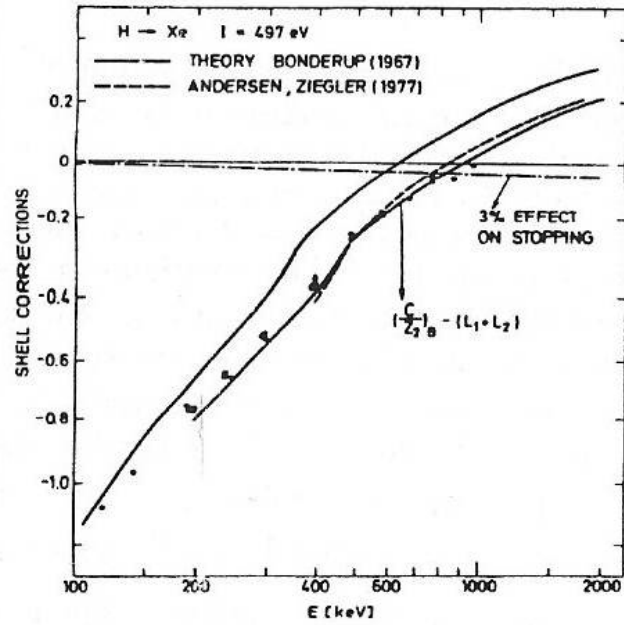
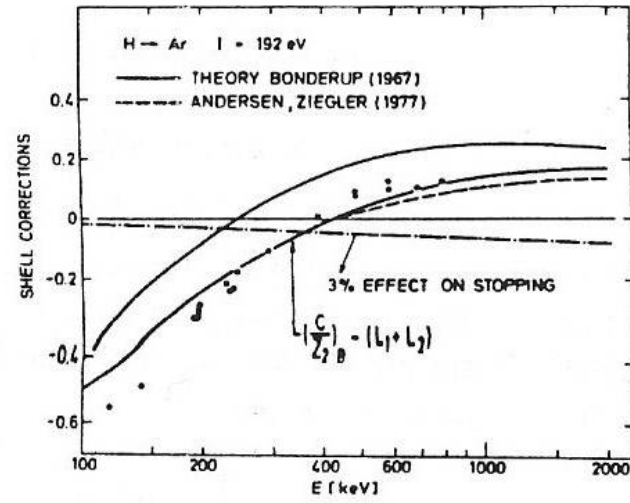


<http://www.nist.gov>

**Stopping-Power and Range Tables
for Electrons, Protons, and Helium Ions**

<https://physics.nist.gov/PhysRefData/Star/Text/PSTAR.html>

<http://physics.nist.gov/PhysRefData/Star/Text/ASTAR.html>



Pressure (density) dependence of *density correction*

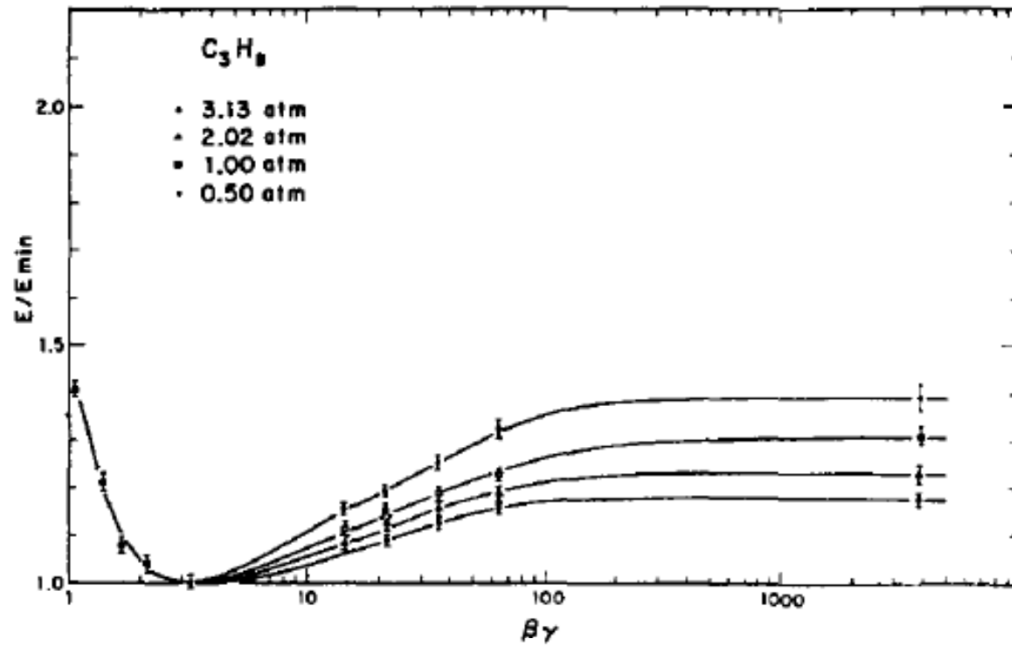


Fig. 2.6 Measured energy loss (reprinted from *Nucl. Instr. and Meth.* 161, Walenta, A.H., Fisher, J., Okuno, H. and Wang, C.L., Measurement of the Ionization Loss in the Region of Relativistic Rise for Noble and Molecular Gases, 45-58, Copyright (1979), with permission from Elsevier) in propane normalized to the energy loss minimum E_{min} versus $\beta\gamma$. The different slopes of the relativistic rise effect depend on the detecting device pressure.

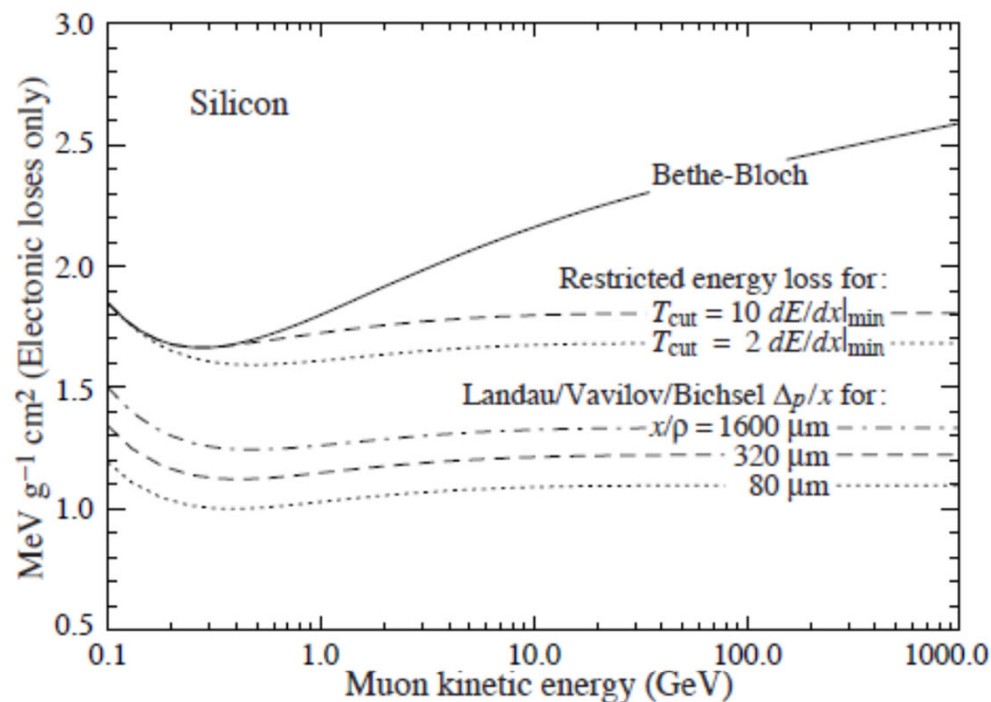
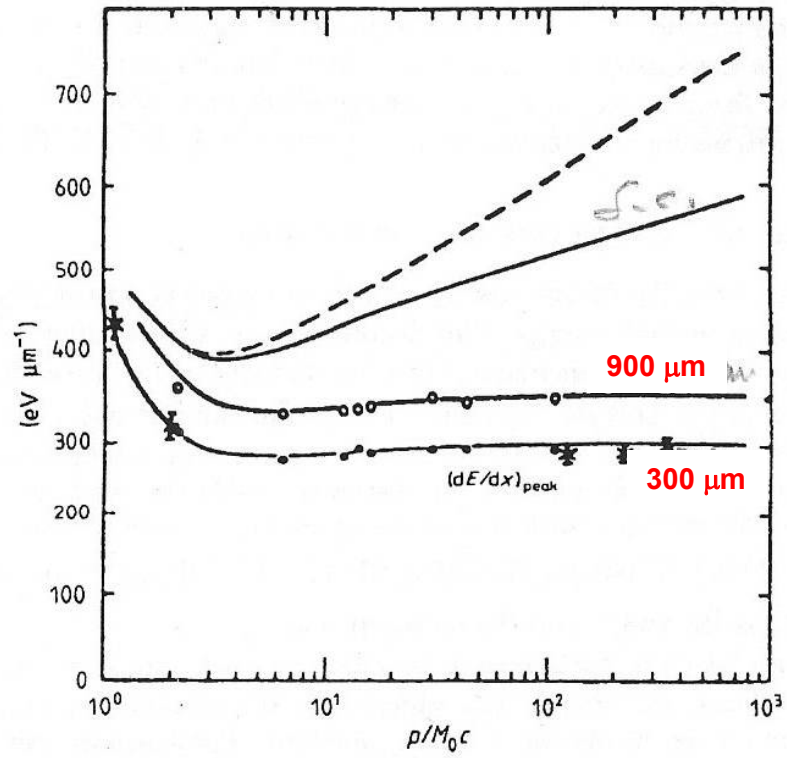


Figure 27.6: Bethe-Bloch dE/dx , two examples of restricted energy loss, and the Landau most probable energy per unit thickness in silicon. The change of Δ_p/x with thickness x illustrates its $a \ln x + b$ dependence. Minimum ionization ($dE/dx|_{\text{min}}$) is $1.664 \text{ MeV g}^{-1} \text{ cm}^2$. Radiative losses are excluded. The incident particles are muons.

Principles of Radiation Interaction in Matter and Detection



Stopping power for protons in pl. scint

