

It follows that $(\Delta N / \Delta E) = \text{const}$ within the allowed energy range E_1^{min} to E_1^{max} .

That is, the differential probability for the scattered particle distribution in energy E_1 is a constant, independent of the scattered energy E_1 of the incident particle. Similarly, since $E_1 + E_2 = E_0$

for an elastic collision, the differential probability distribution for the recoil energy E_2 of the target particle is also a constant within its allowed range.

Consequently, if one were looking at elastic S-wave scattering using a pulse-height analyzer, one should see equal counts in all allowed channels.