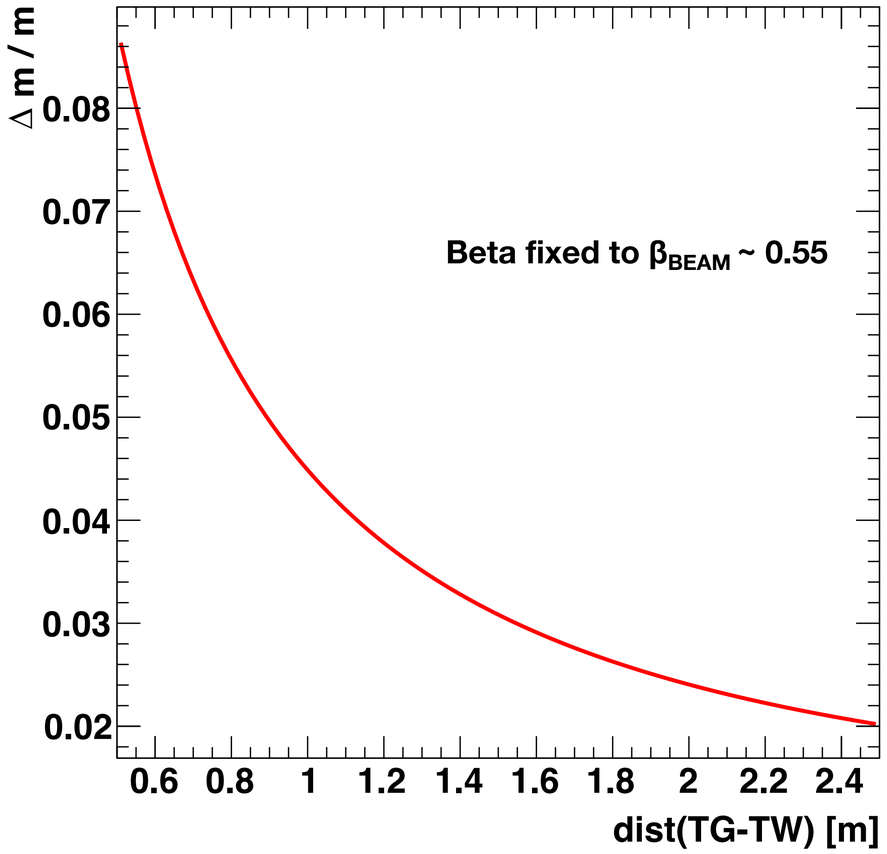
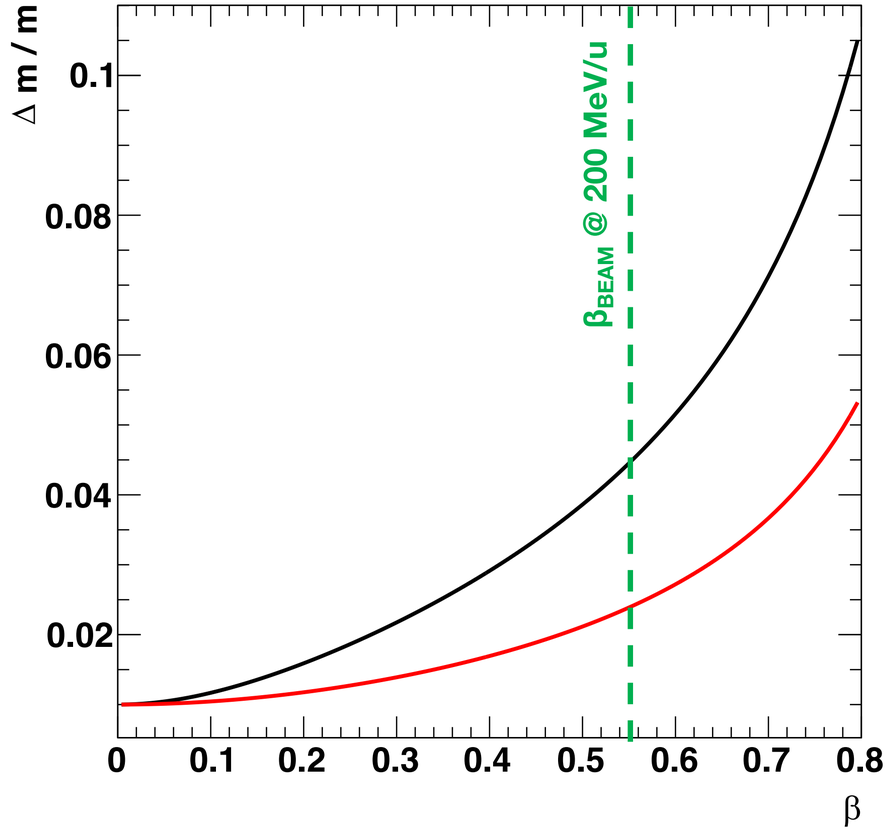
Mass resolution at CNAO

Mass resolution @ 200 MeV/u, $\sigma(E_{kin})/E_{kin}$=1% and σ_{ToF} =100 ps

Conservative conditions taking the same resolutions for all the fragments (not true).
Tof resolution has the biggest impact on the mass resolution.
In next slide also resolution on calorimeter more conservative 1%->2%



black=1m red=2m **Two different values of dist(TG-TW)**



Separations btw isotopes in Nsigmas

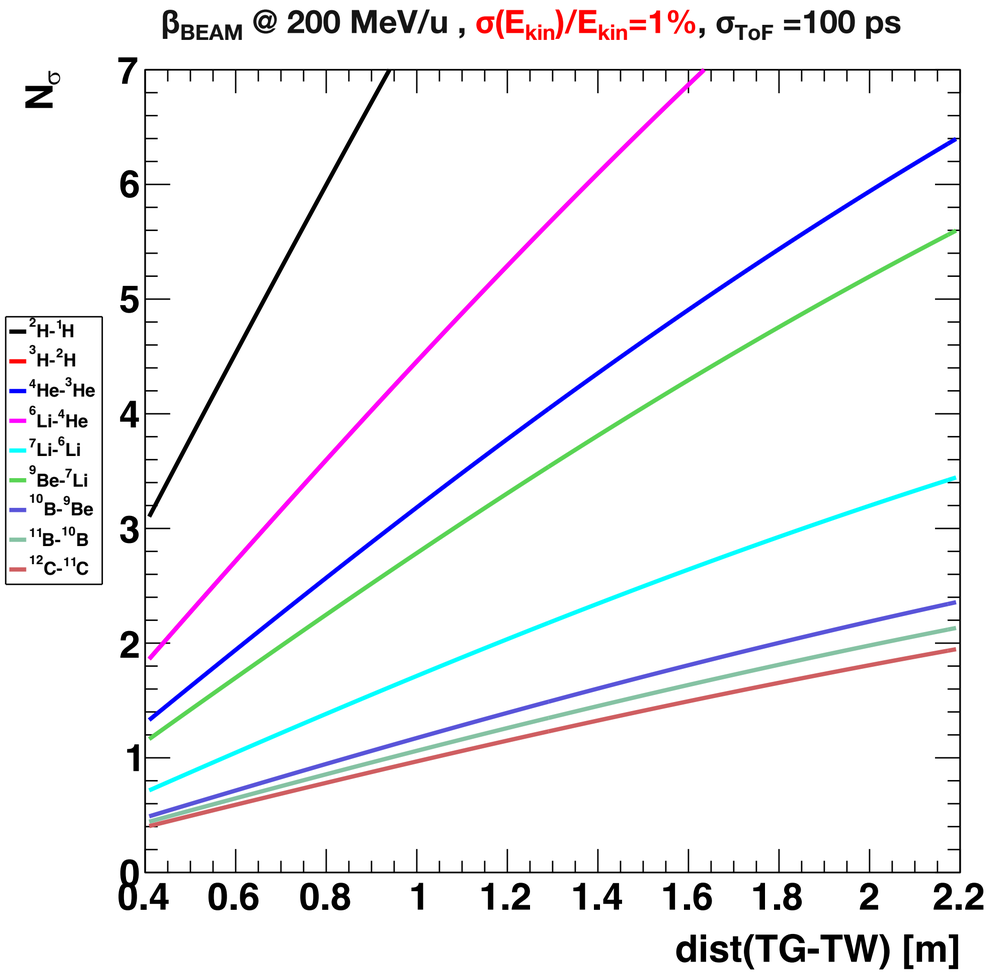
NB1: simplified masses: m=A

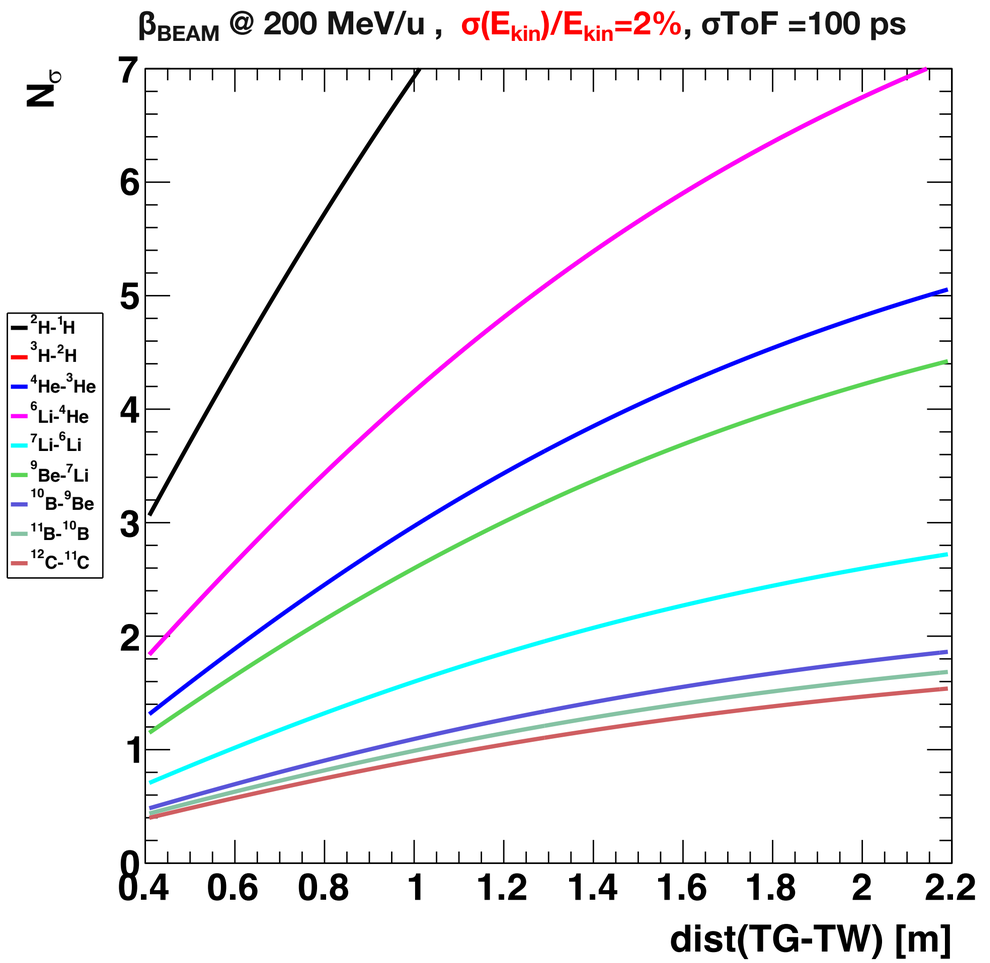
So:

1- cannot distinguish isotopes with the same A

2- 2H-3H and 6Li-4He overlapped

NB2: mass resolution expecially for H and He worsen with beta distribution (see previous slide right plot)→ here β fixed to β_{BEAM}






come fai..SBAI