

CALORIMETRO

CRISTALLO MONOBLOCCO

SETUP (1): single crystal cylinder $r=22$ cm x 11 cm

SETUP (2): single crystal $r=22$ cm x 14 cm

SETUP (3): single crystal $r=22$ cm x 22 cm

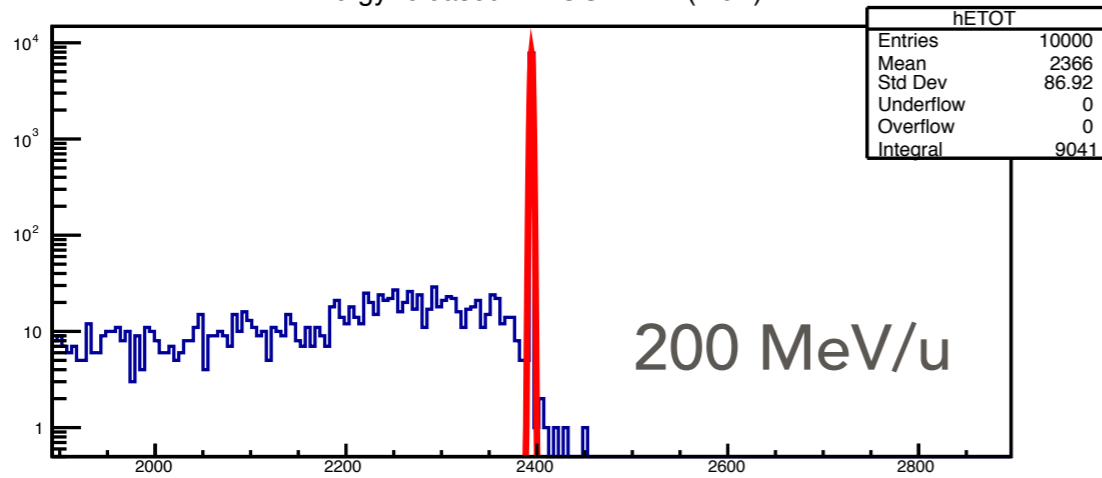
SETUP (4): single plastic scintillator $r=22$ cm x 22 cm

Carbon ion energy: 200, 250, 300 MeV/u

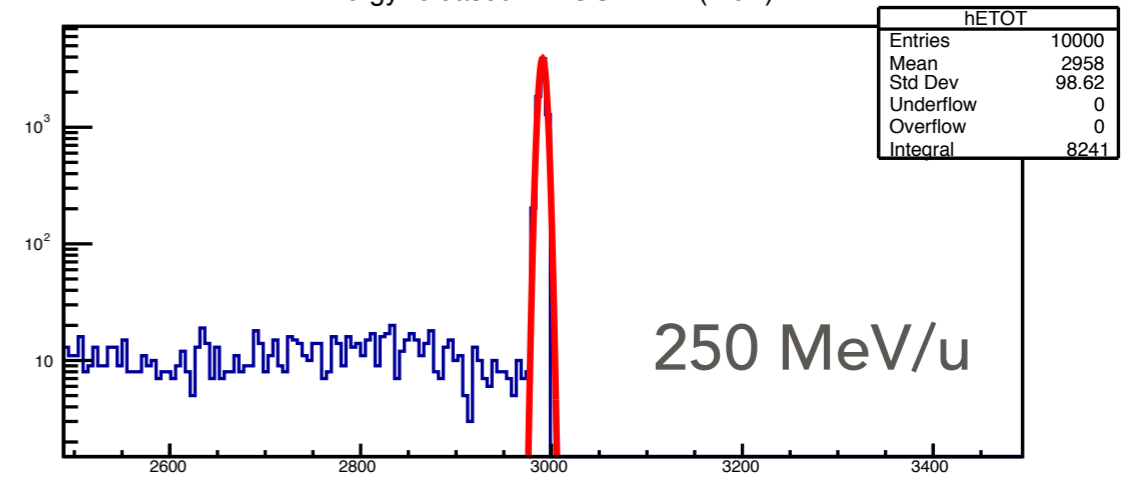
CALORIMETRO

CRISTALLO MONOBLOCCO 7 CM

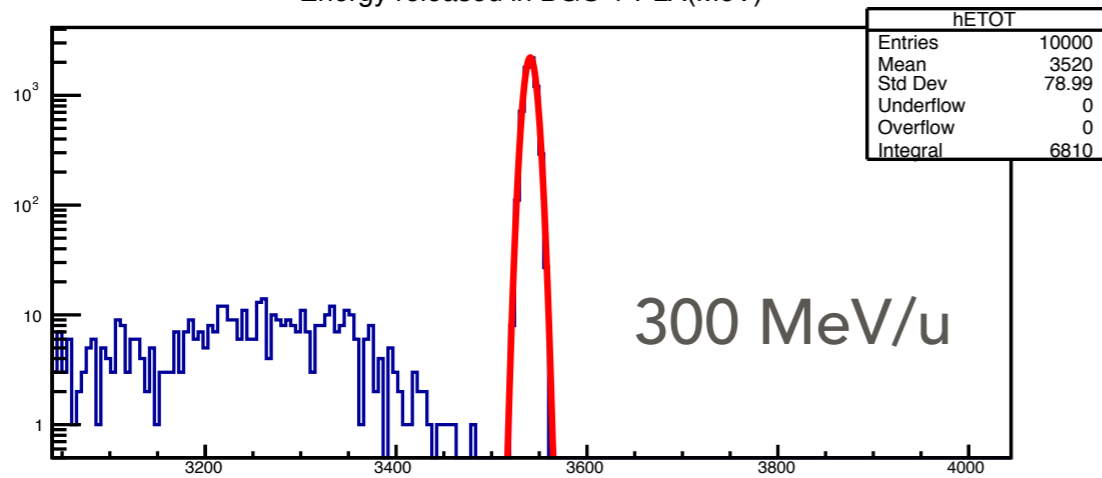
Energy released in BGO + PLA(MeV)



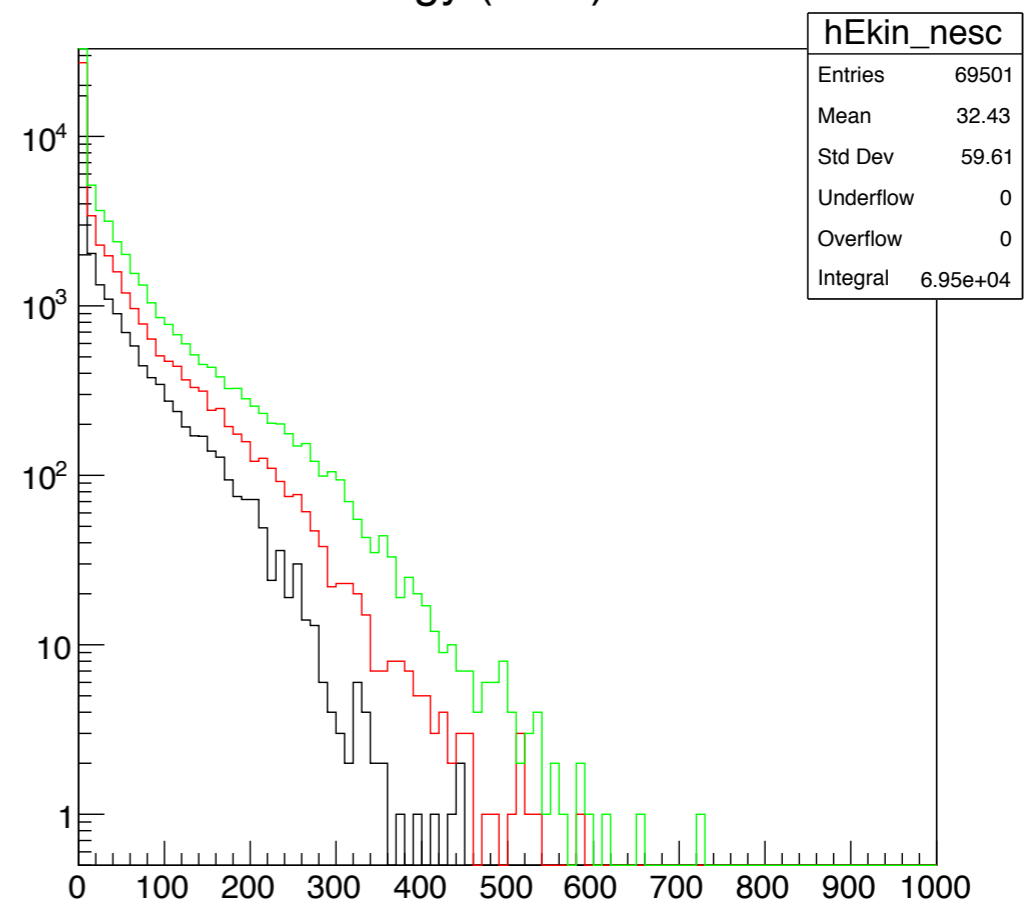
Energy released in BGO + PLA(MeV)



Energy released in BGO + PLA(MeV)



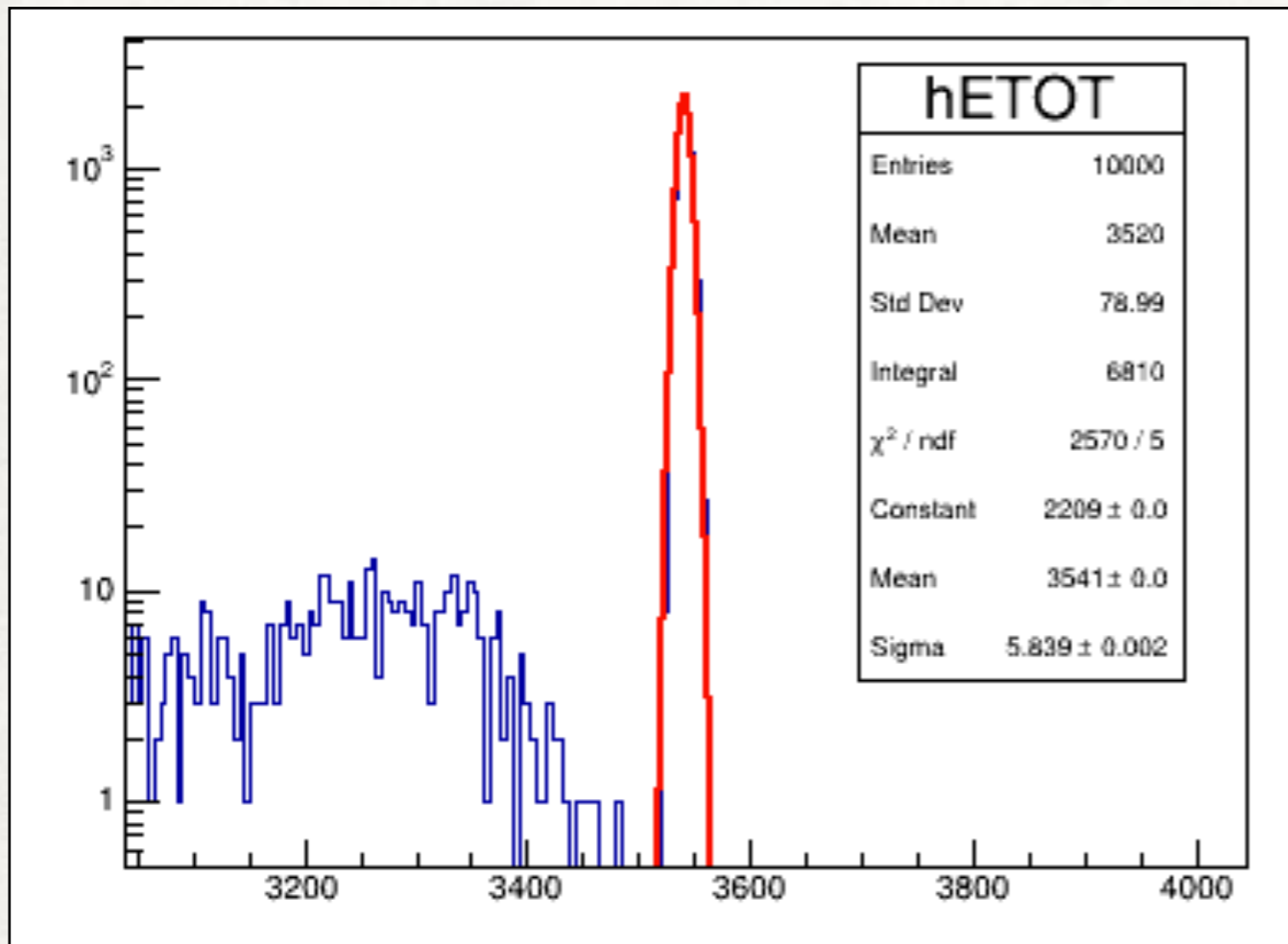
Kinetic Energy (MeV) of neutrons



CALORIMETRO

CRISTALLO MONOBLOCCO 7 CM

300 MeV/u



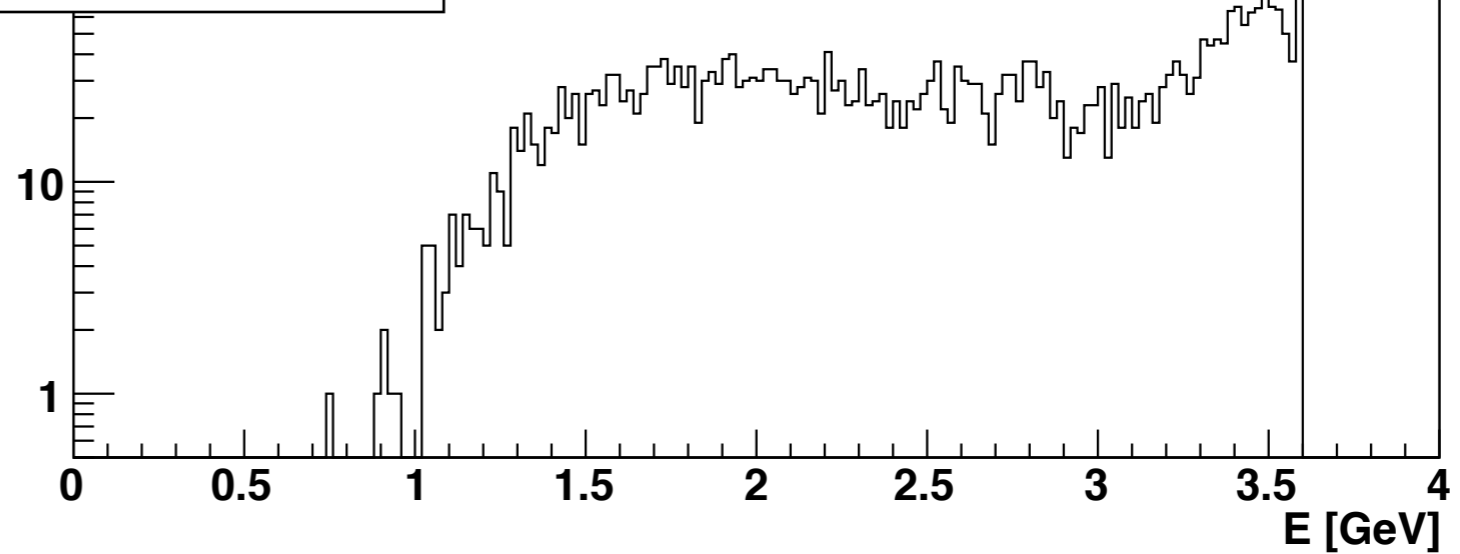
energy deposited in calo + scin

Simulazione Giuseppe

Il picco e' a 3.6 GeV
la media e' 3.218 GeV

hEnDep2	
Entries	10000
Mean	3.218
Std Dev	0.6683

Il picco e' < 3.6 GeV !!
la media e' 3.5 GeV



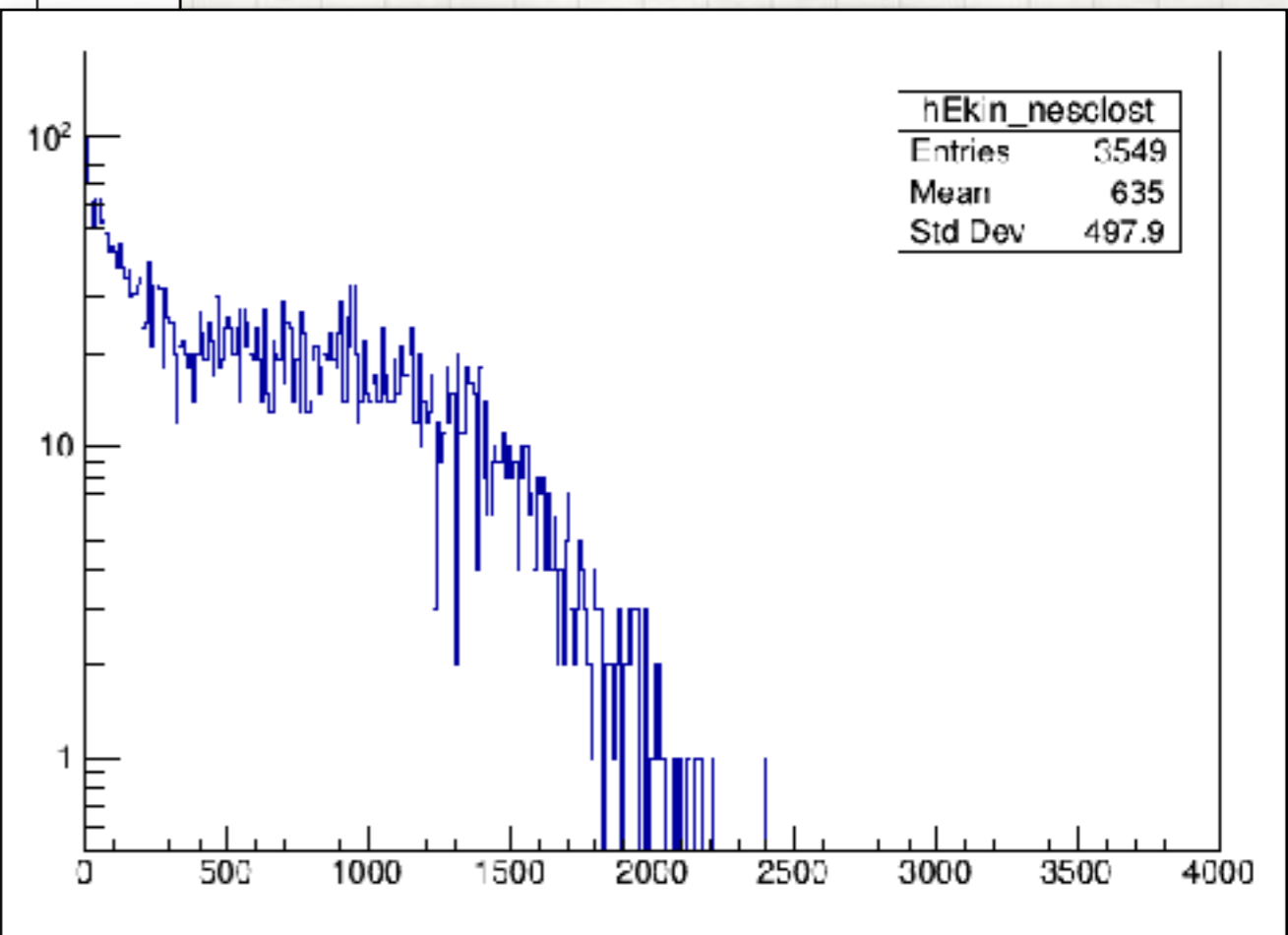
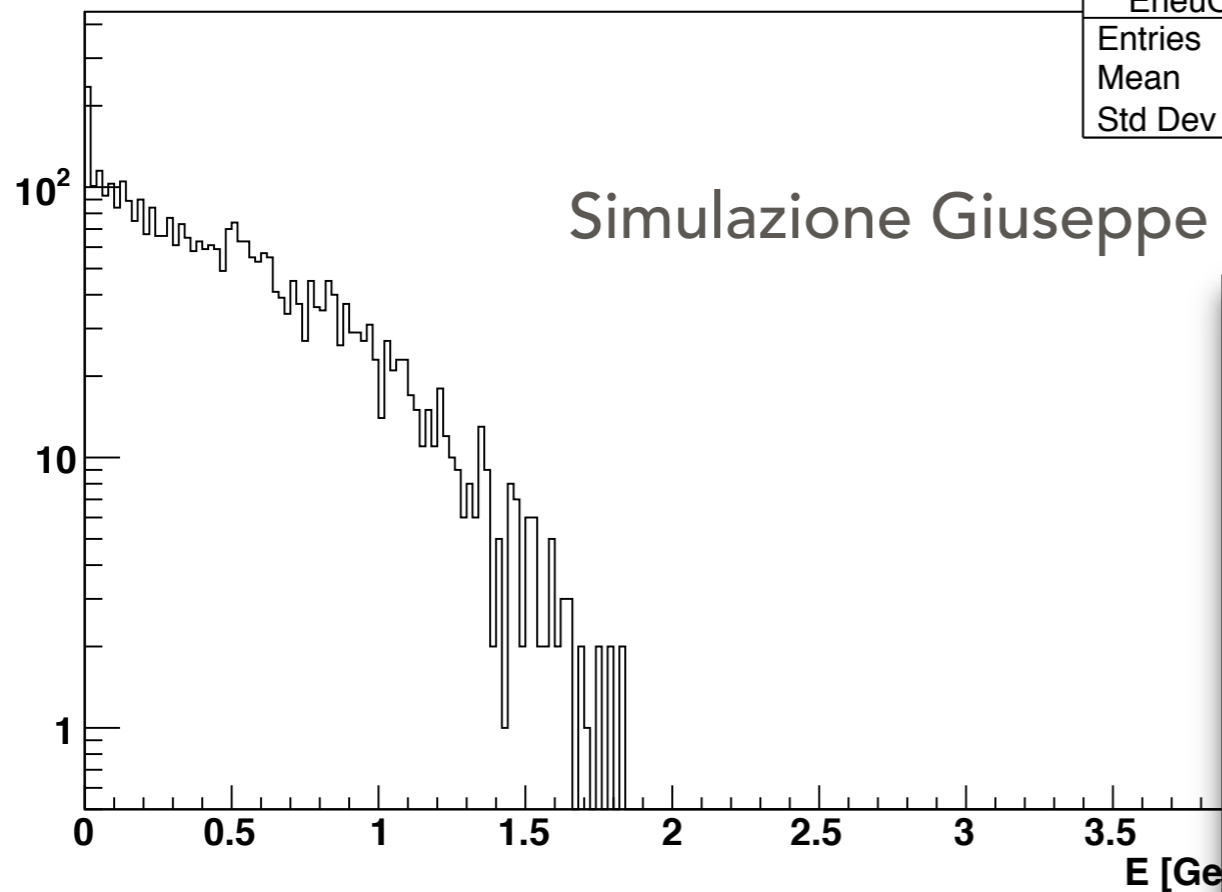
CALORIMETRO

CRISTALLO MONOBLOCCO 7 CM

300 MeV/u

Neutron Energy escaping from calo/event

EneuOutCalo	
Entries	3445
Mean	0.4582
Std Dev	0.3706

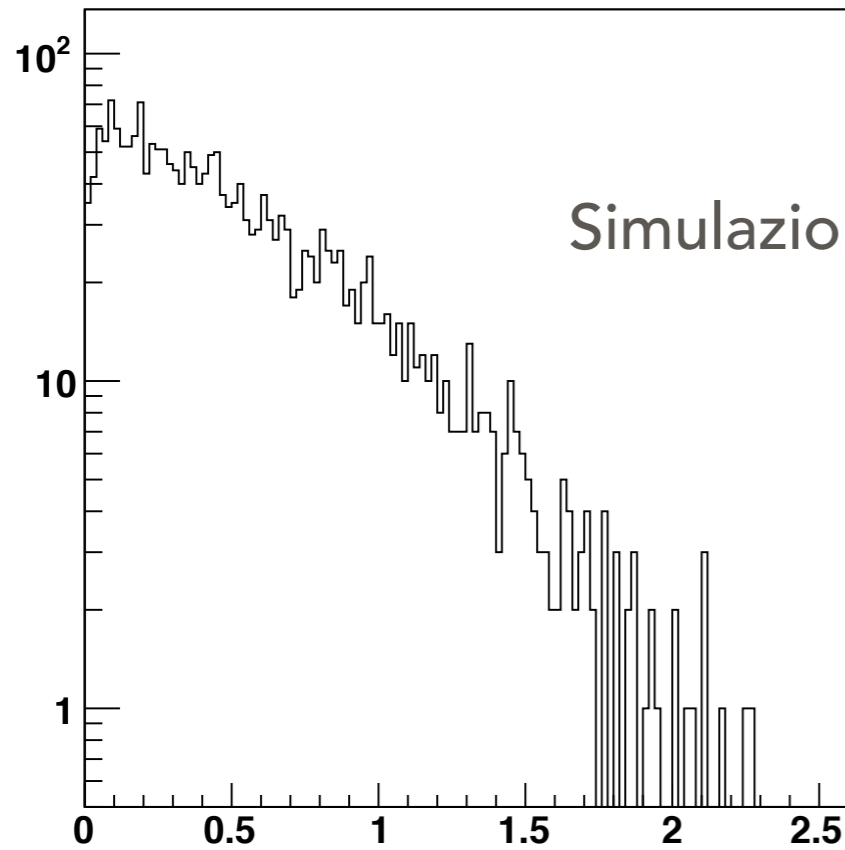


CALORIMETRO

CRISTALLO MONOBLOCCO 7 CM

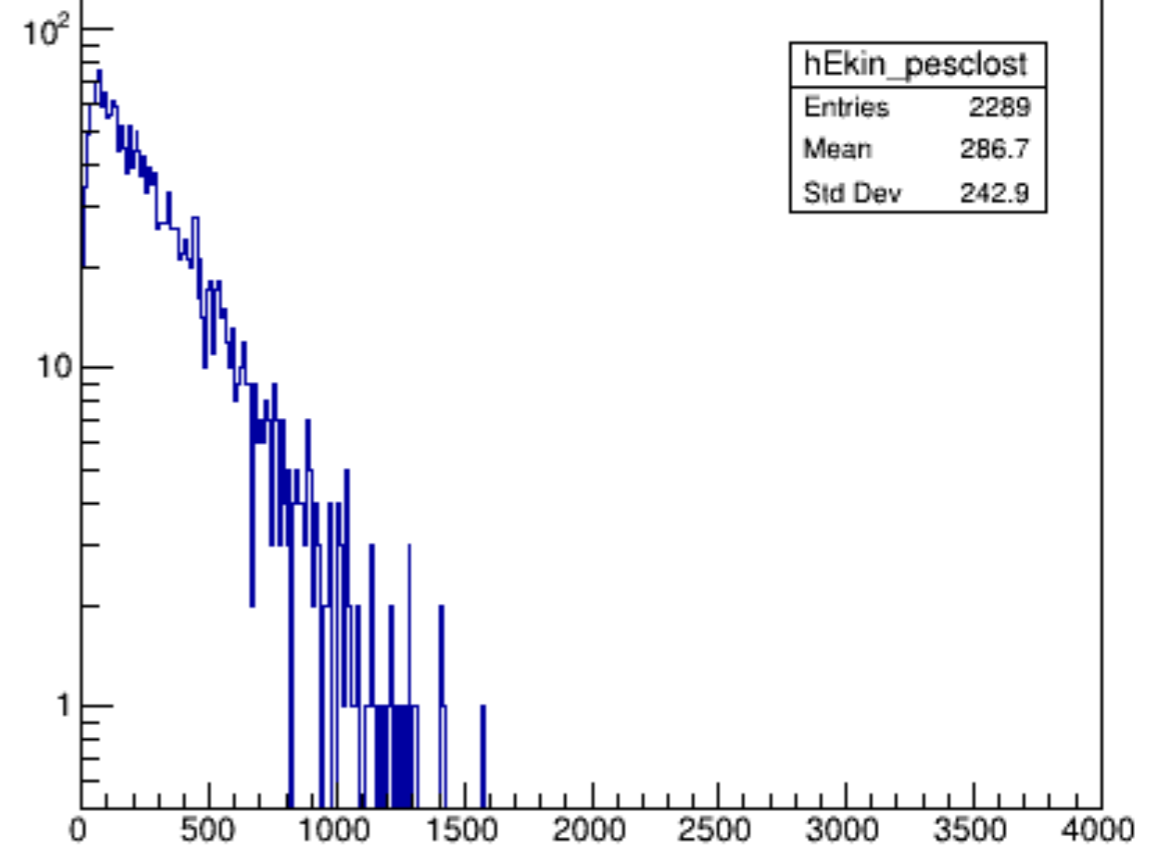
300 MeV/u

Ch. Particle Energy escaping from calo/event

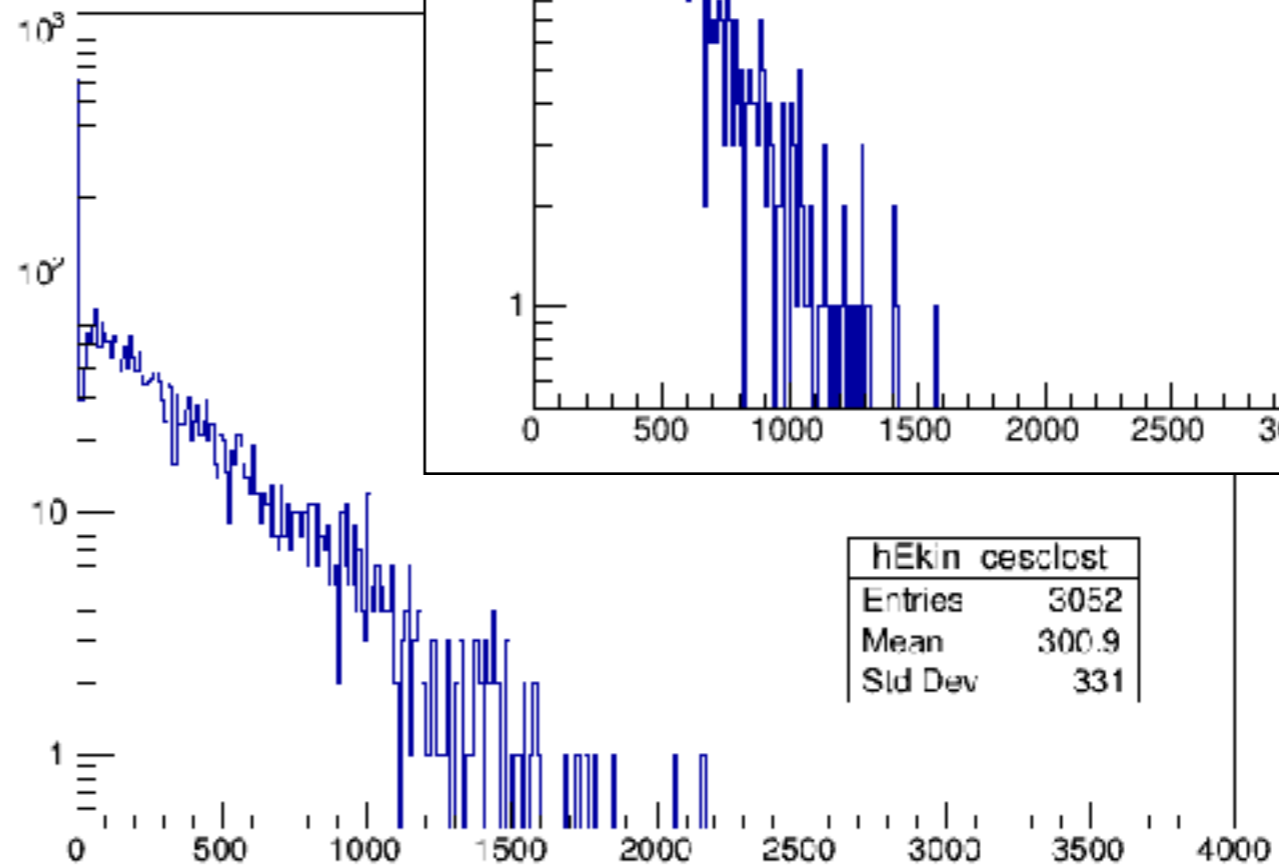


EcharOutCalo	
Entries	2172
Mean	0.5328
Std Dev	0.4189

Simulazione Giuseppe



hEkin_pesclost	
Entries	2289
Mean	286.7
Std Dev	242.9

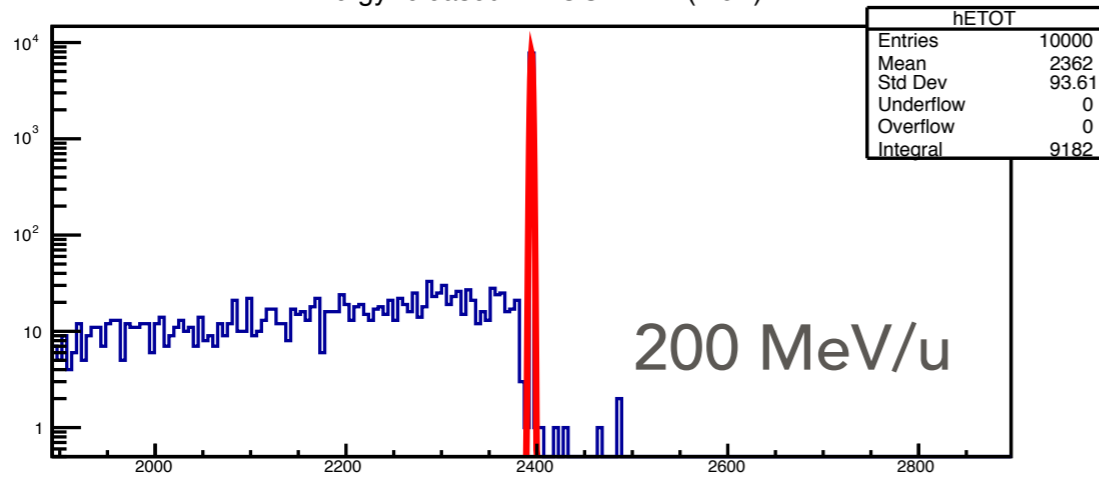


hEkin_cesclost	
Entries	3052
Mean	300.9
Std Dev	331

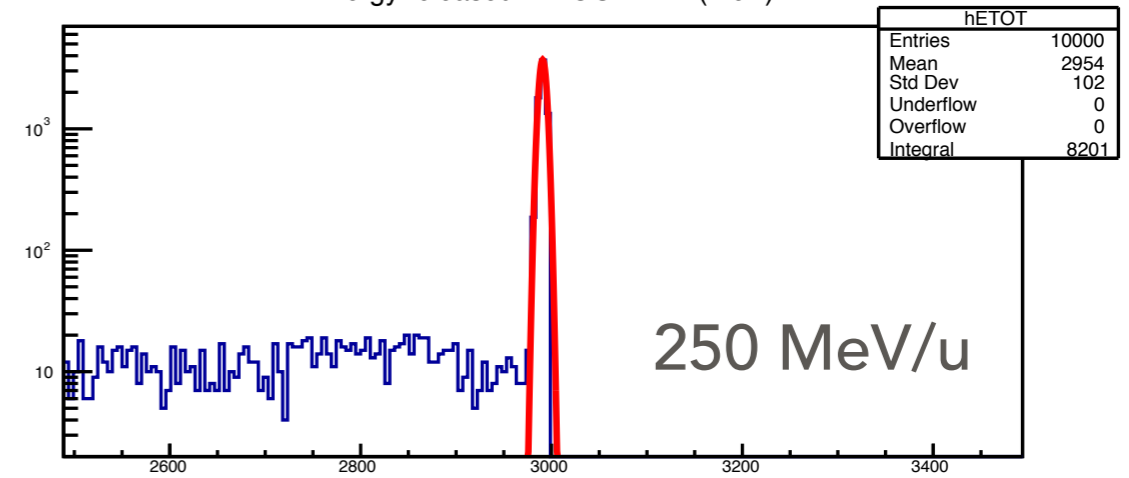
CALORIMETRO

CRISTALLO MONOBLOCCO 11 CM

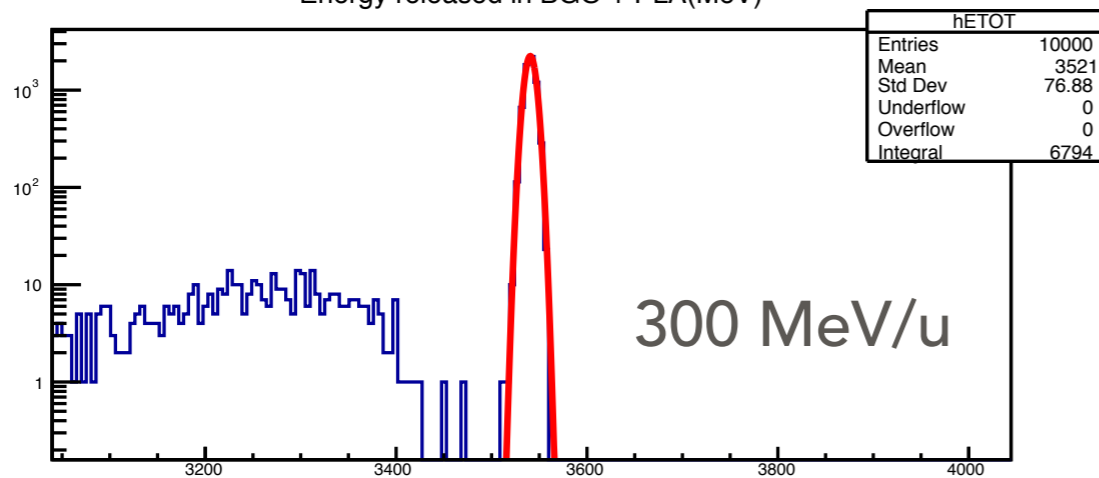
Energy released in BGO + PLA(MeV)



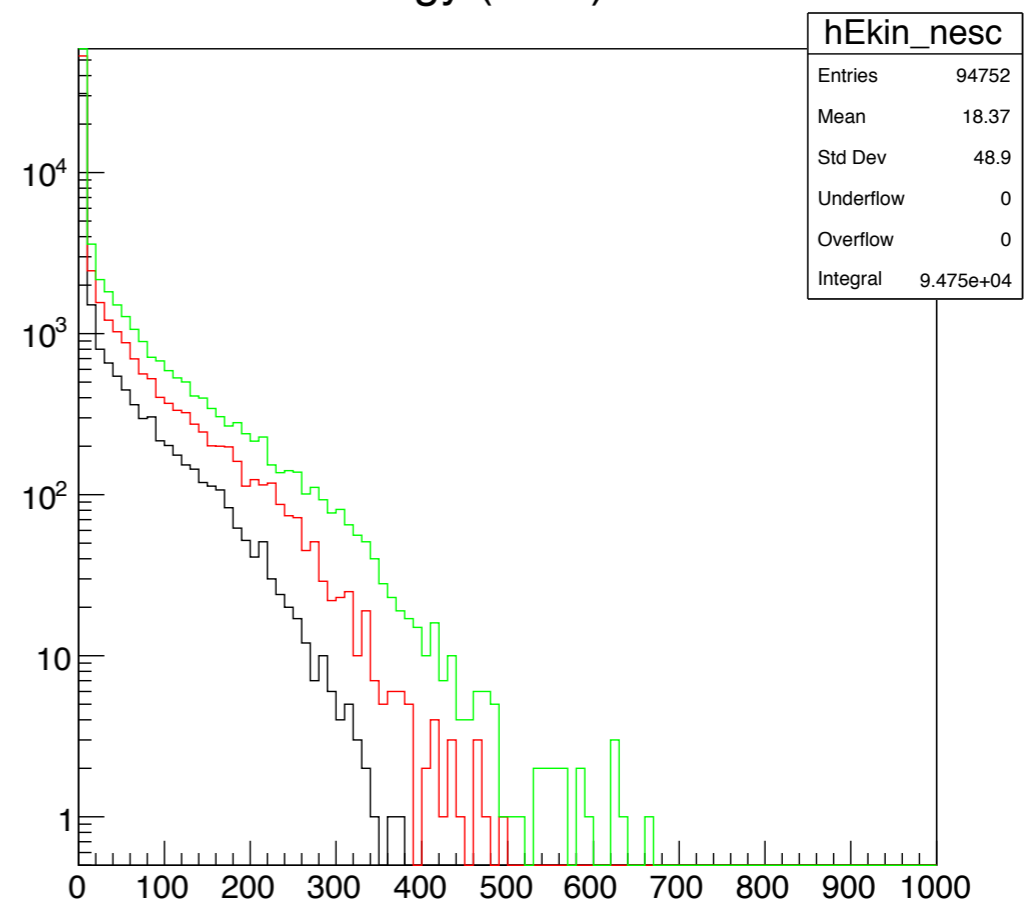
Energy released in BGO + PLA(MeV)



Energy released in BGO + PLA(MeV)



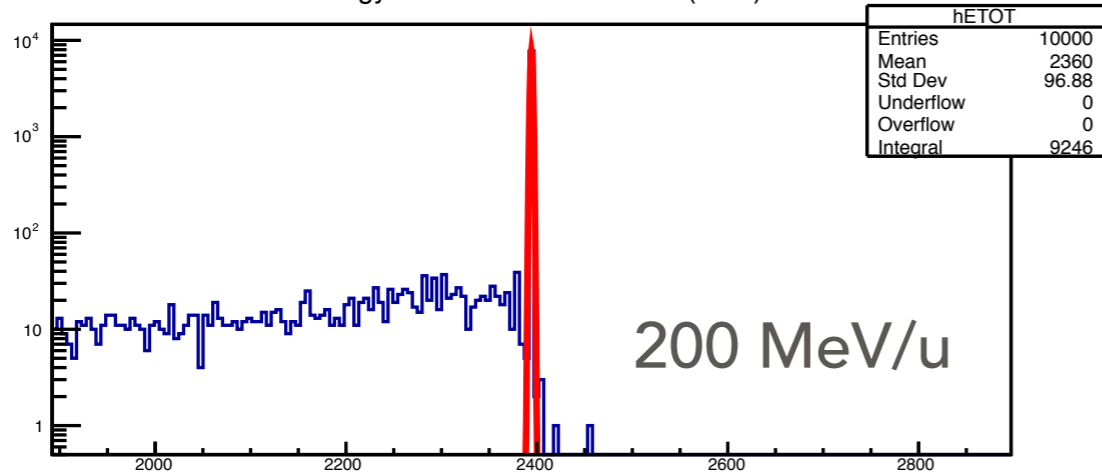
Kinetic Energy (MeV) of neutrons



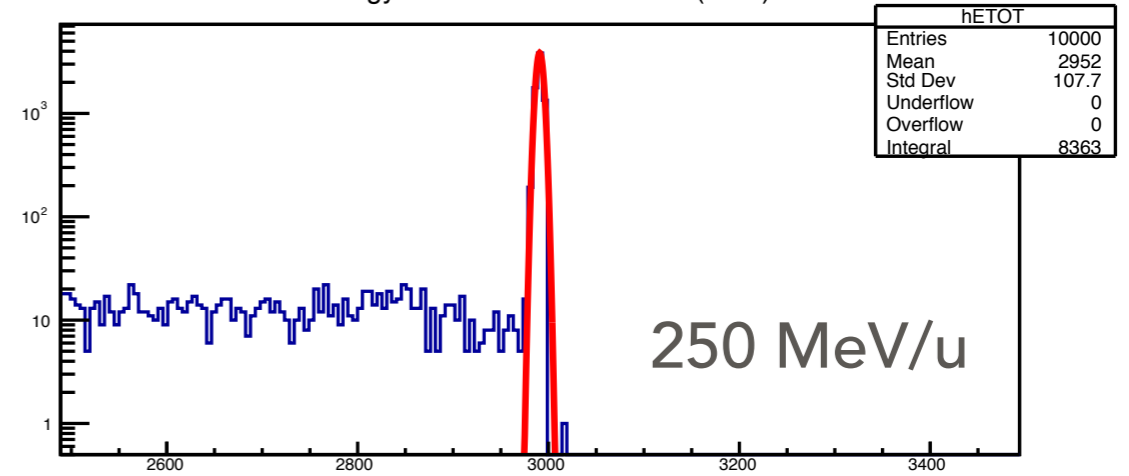
CALORIMETRO

CRISTALLO MONOBLOCCO 14 CM

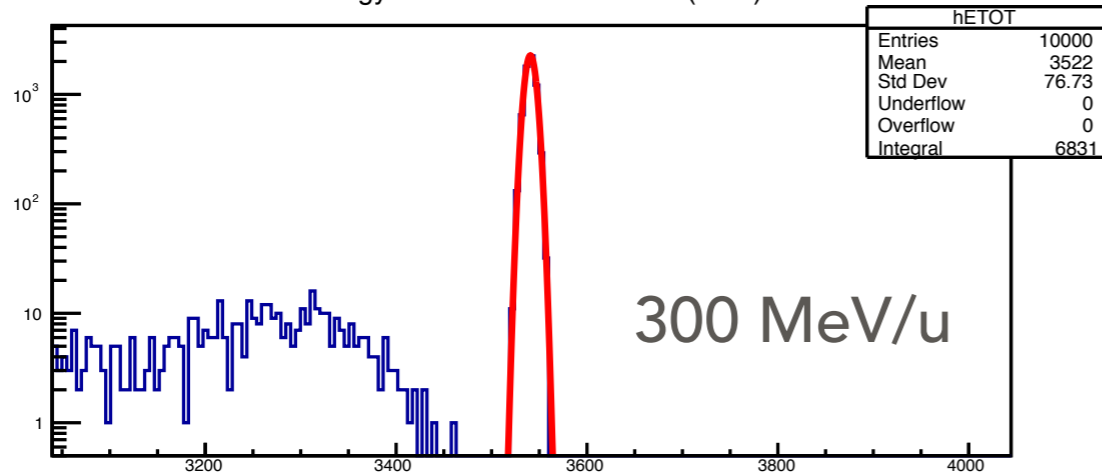
Energy released in BGO + PLA(MeV)



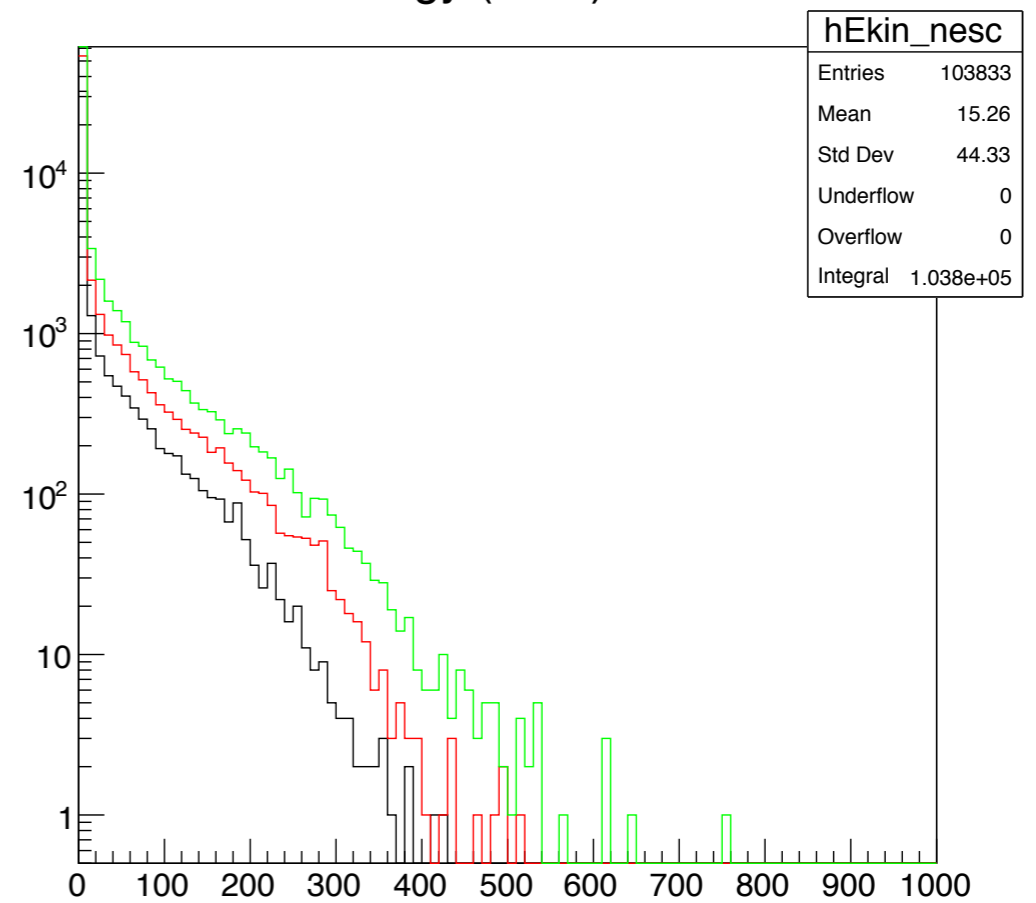
Energy released in BGO + PLA(MeV)



Energy released in BGO + PLA(MeV)



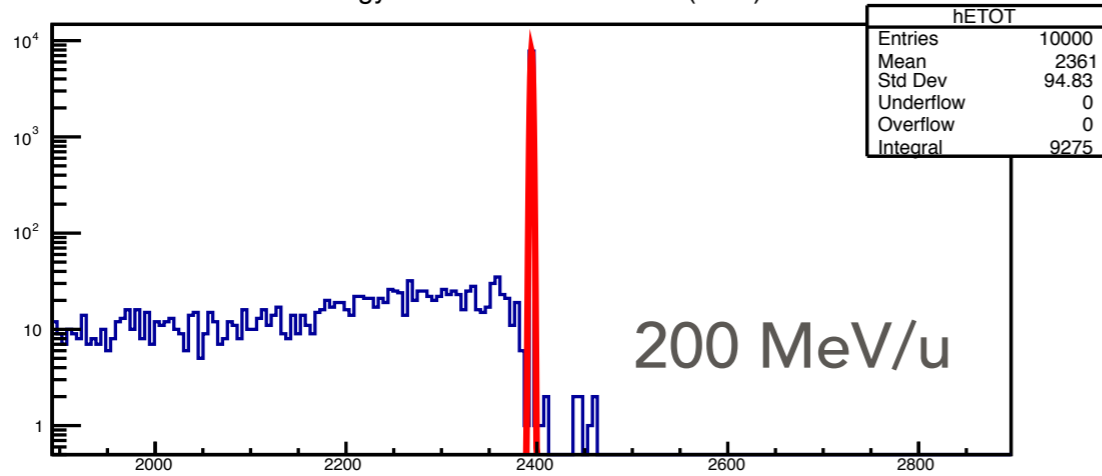
Kinetic Energy (MeV) of neutrons



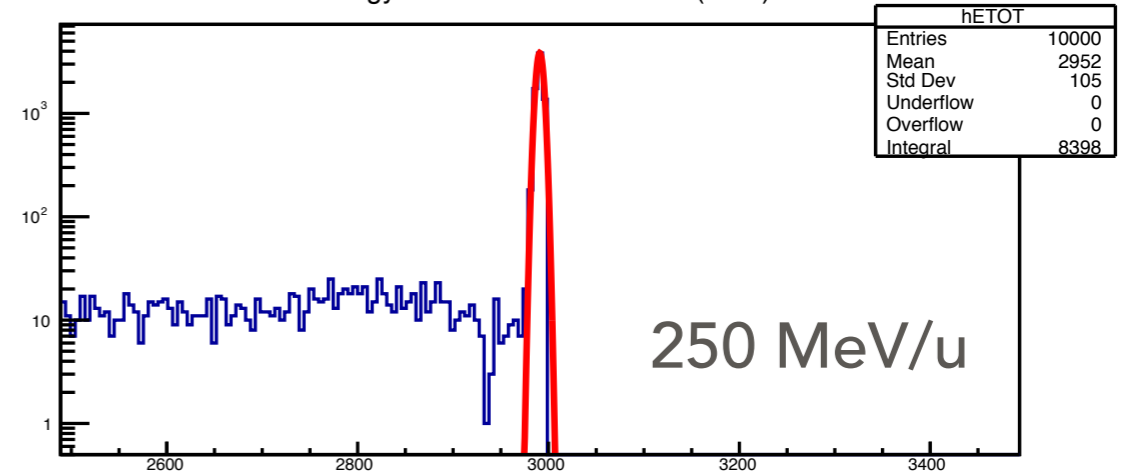
CALORIMETRO

CRISTALLO MONOBLOCCO 22 CM

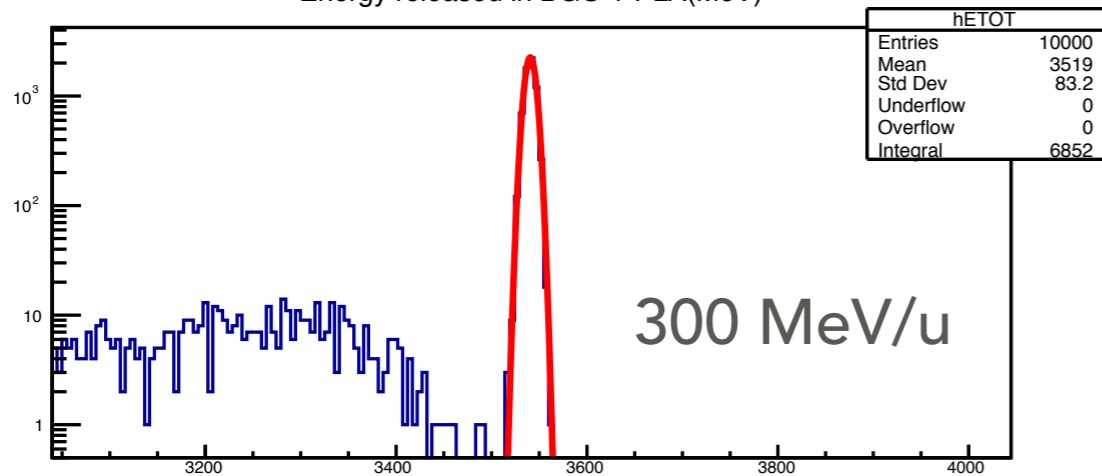
Energy released in BGO + PLA(MeV)



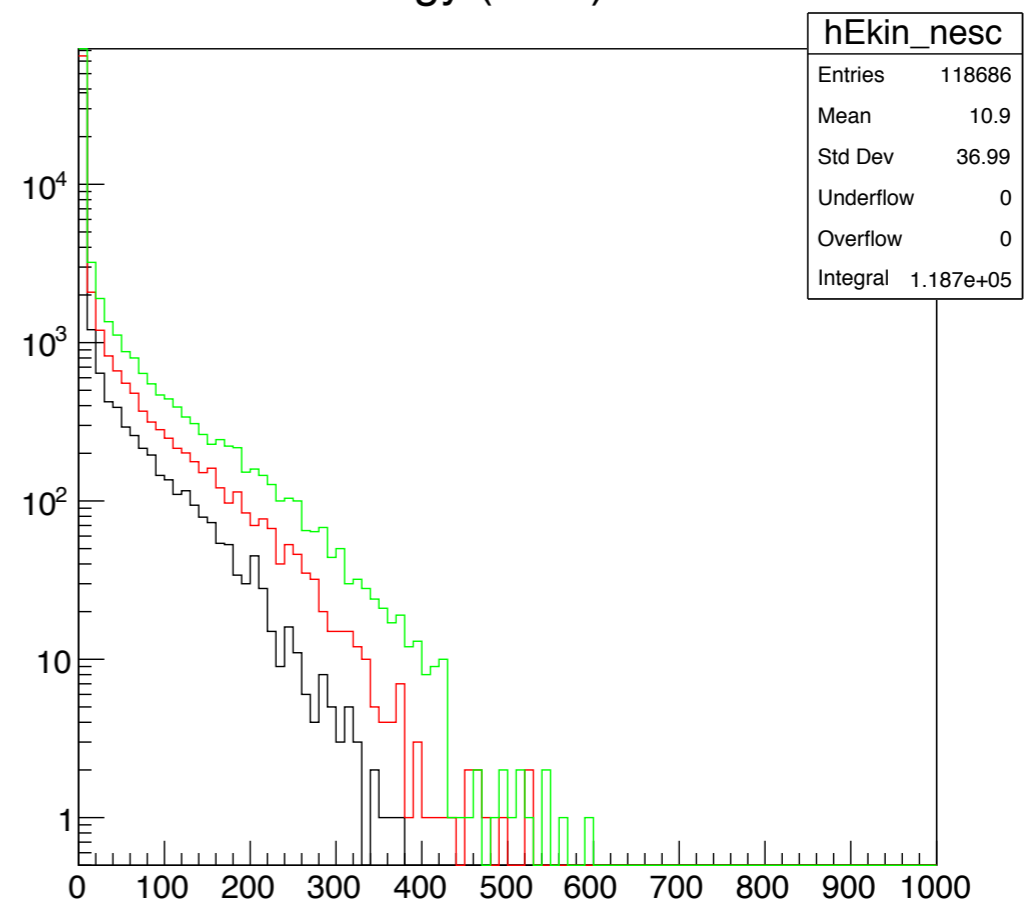
Energy released in BGO + PLA(MeV)



Energy released in BGO + PLA(MeV)



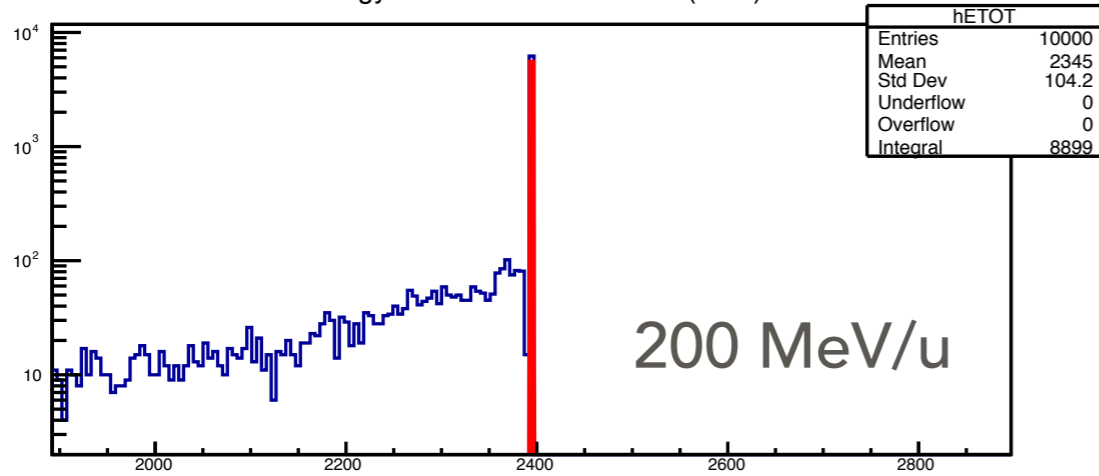
Kinetic Energy (MeV) of neutrons



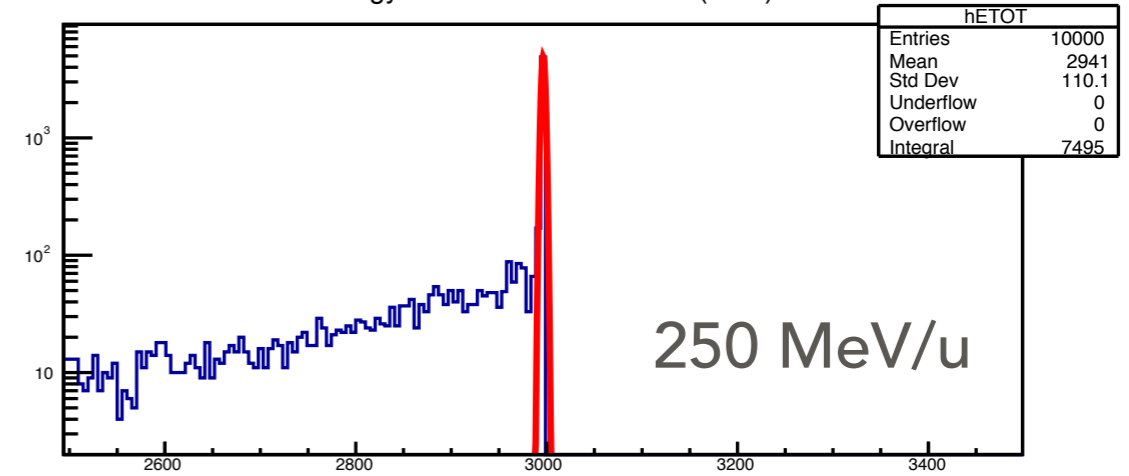
CALORIMETRO

SCINTILLATORE MONOBLOCCO 22 CM

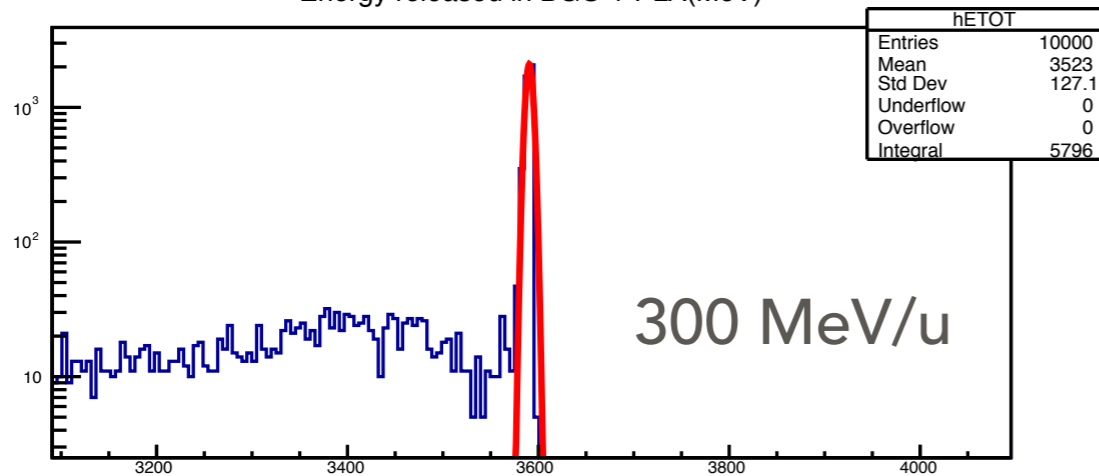
Energy released in BGO + PLA(MeV)



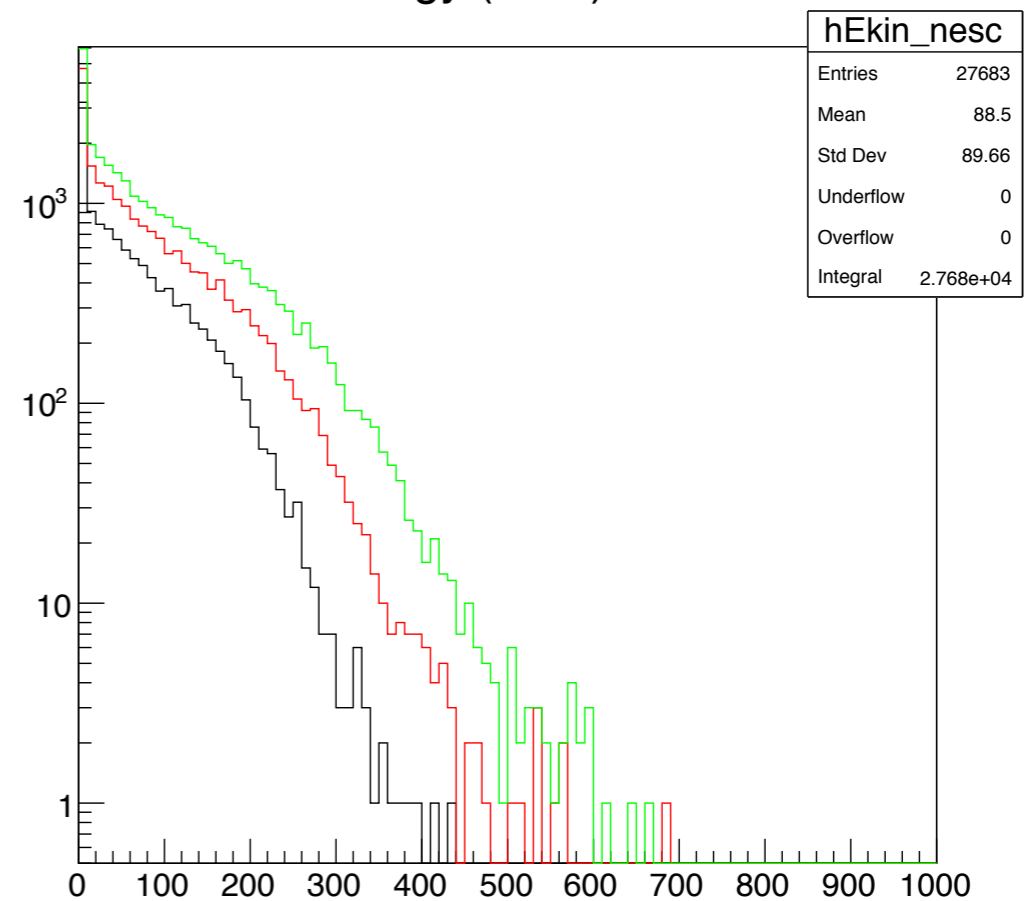
Energy released in BGO + PLA(MeV)



Energy released in BGO + PLA(MeV)



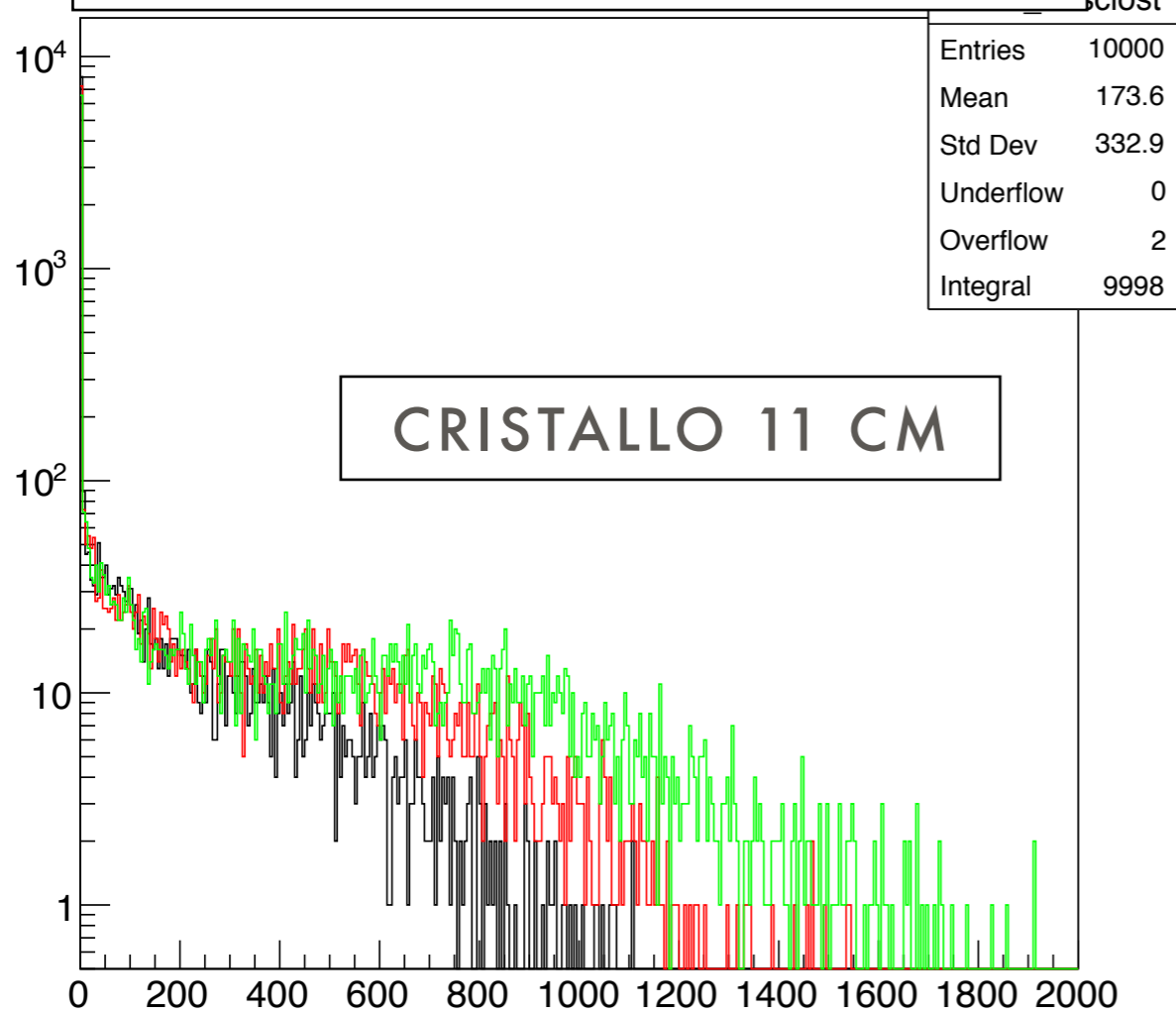
Kinetic Energy (MeV) of neutrons



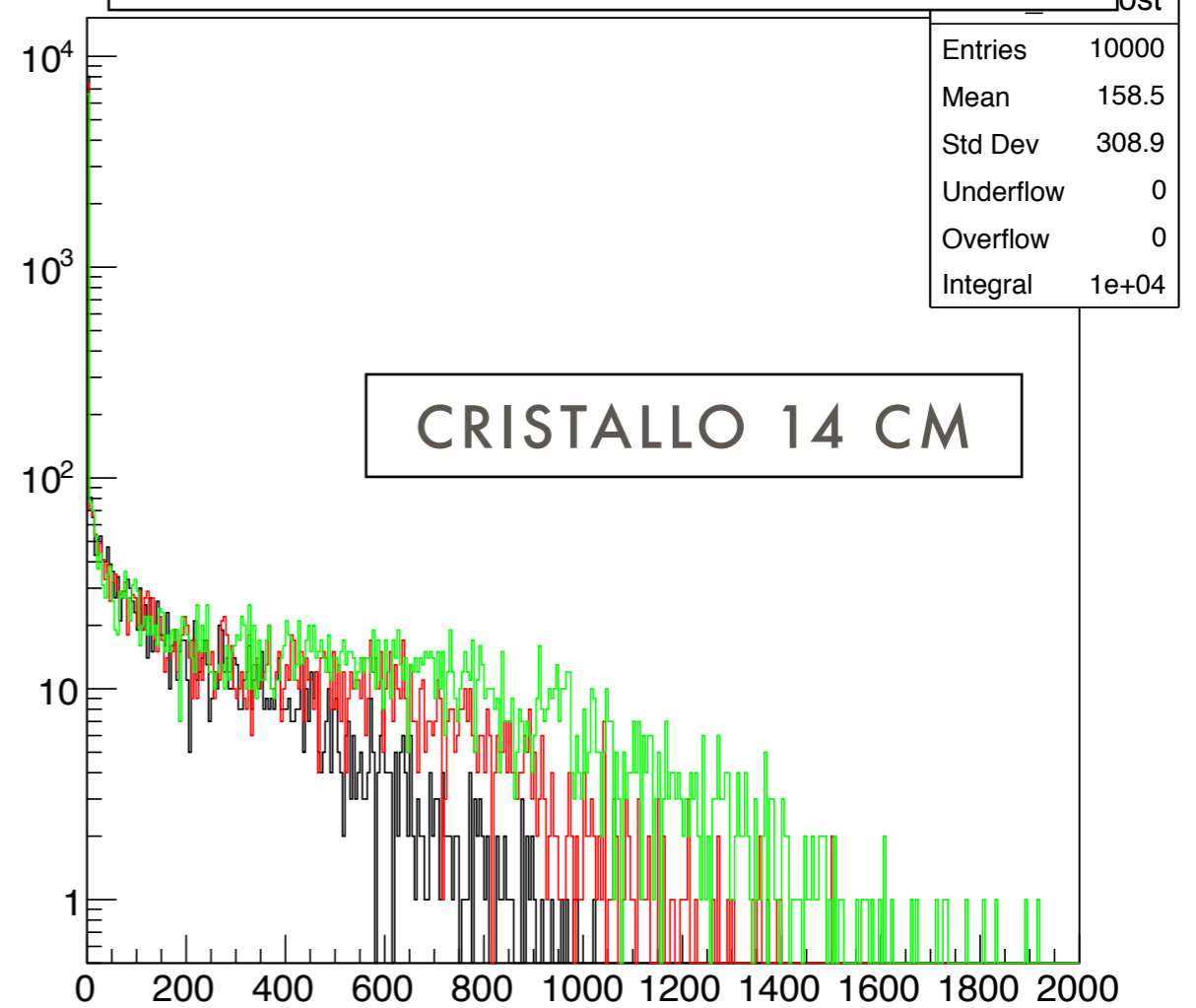
CALORIMETRO

nero = 200 MeV/u
rosso = 250 MeV/u
verde = 300 MeV/u

Energy [MeV] carried out by neutrons

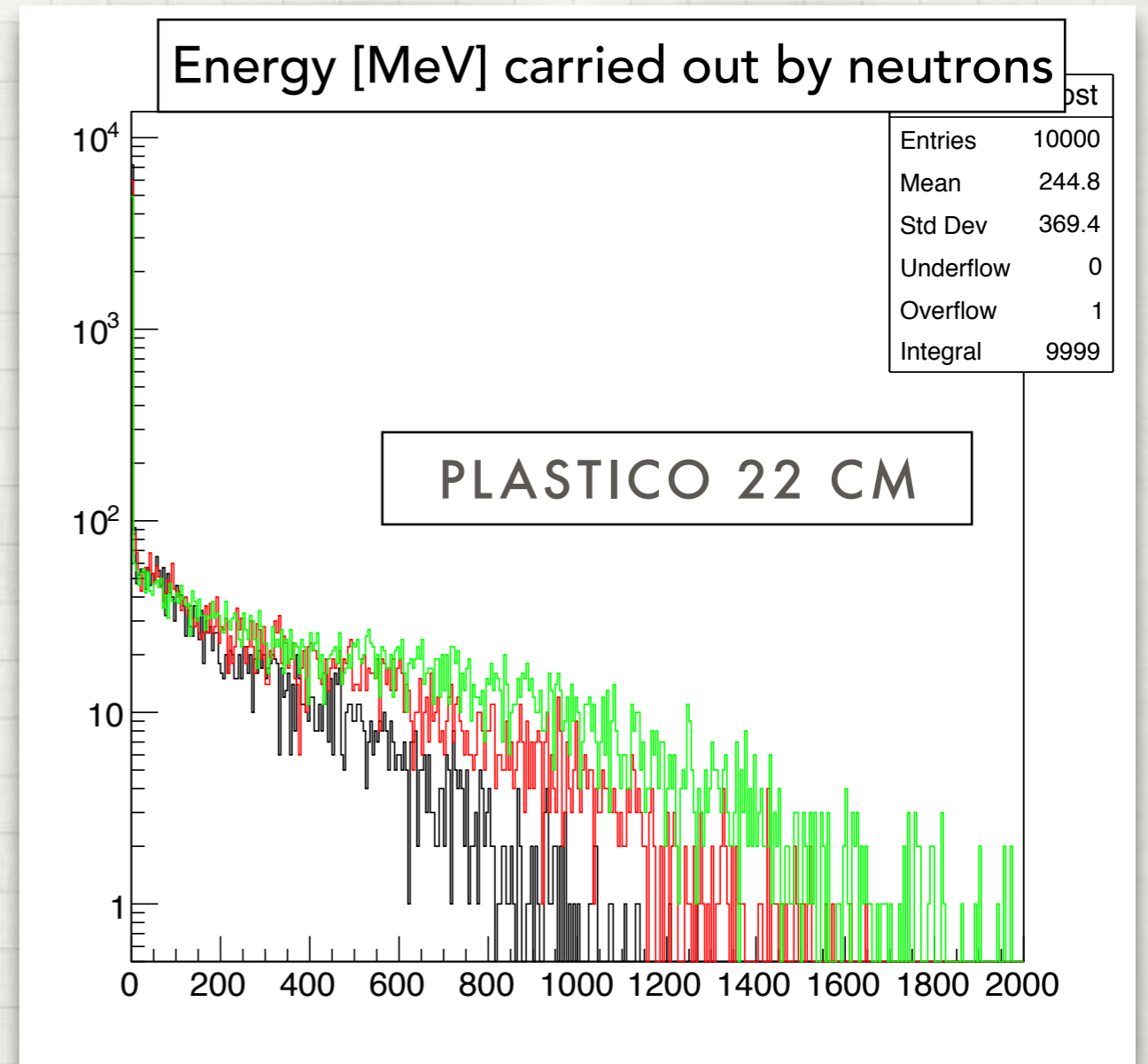
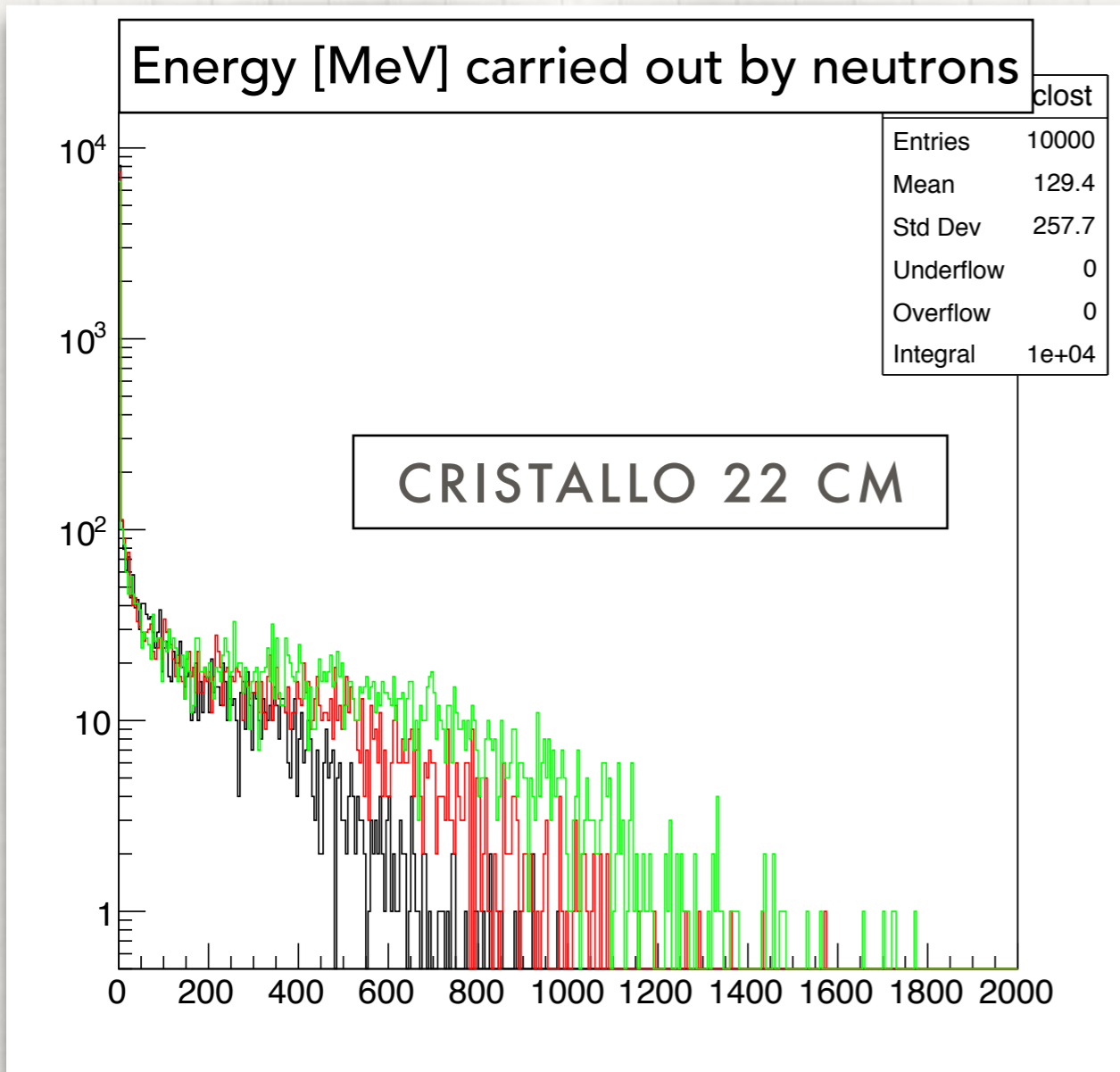


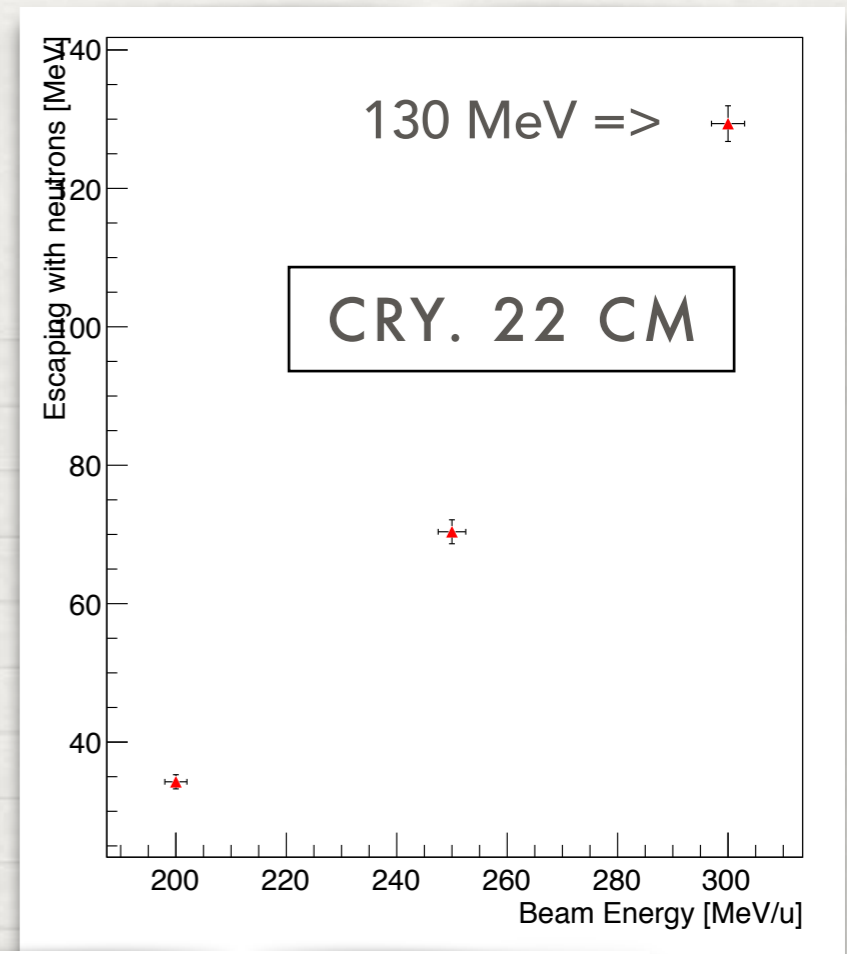
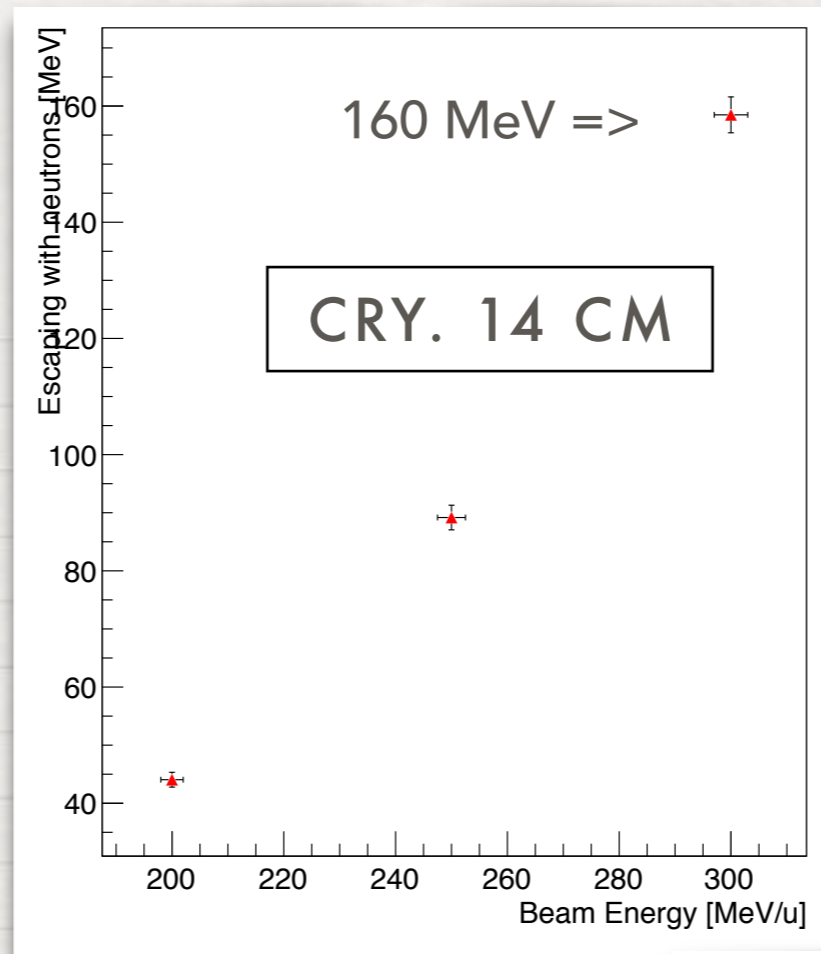
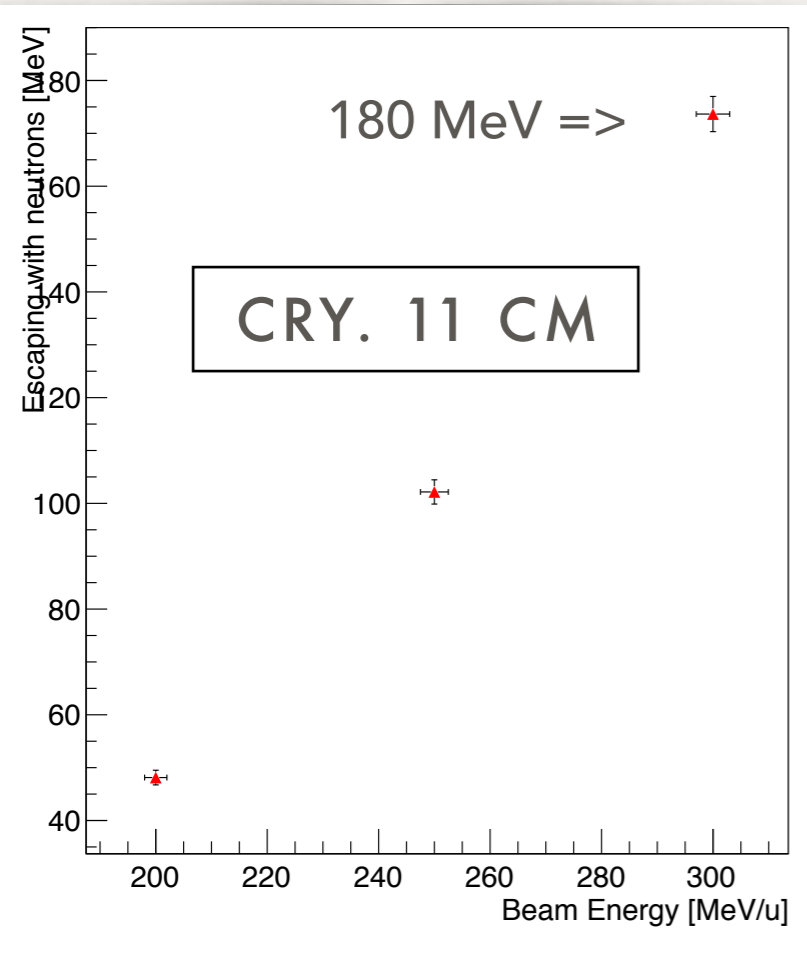
Energy [MeV] carried out by neutrons



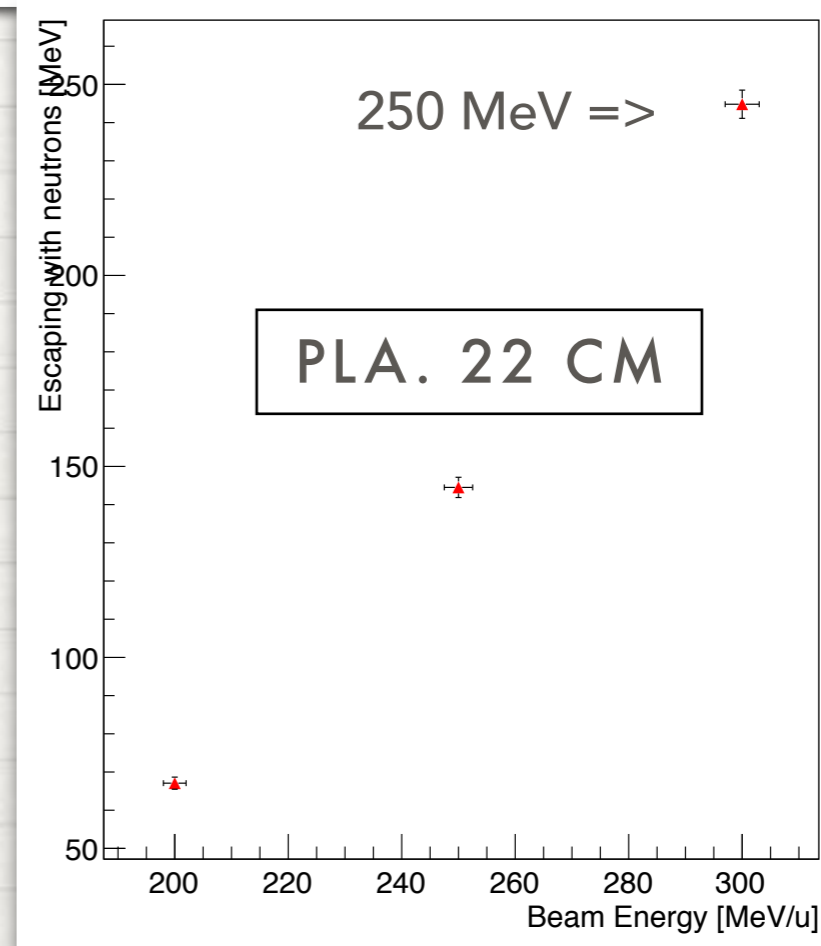
CALORIMETRO

nero = 200 MeV/u
rosso = 250 MeV/u
verde = 300 MeV/u

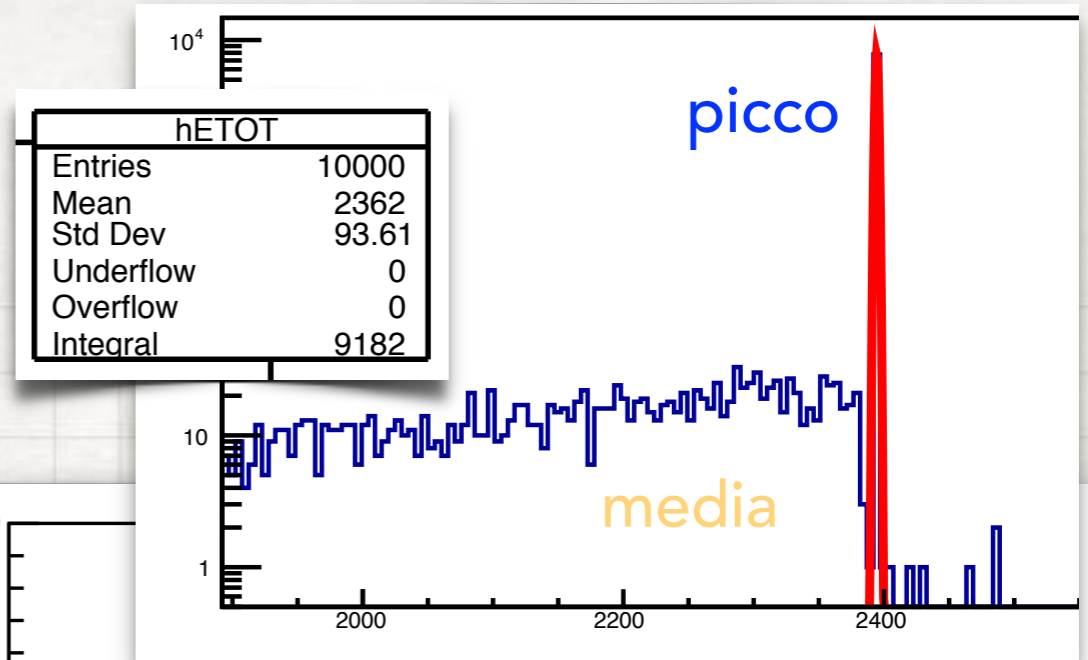
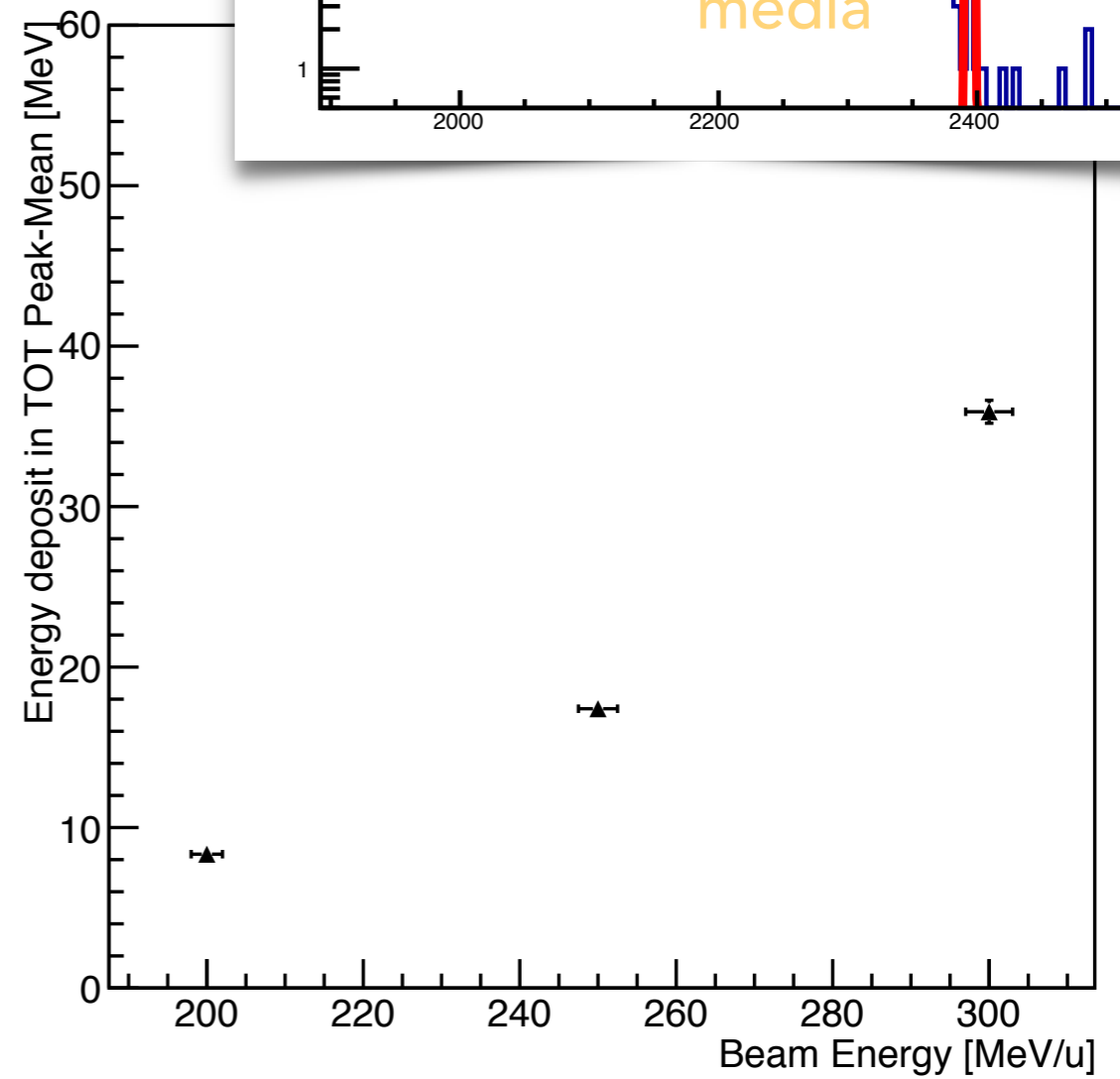
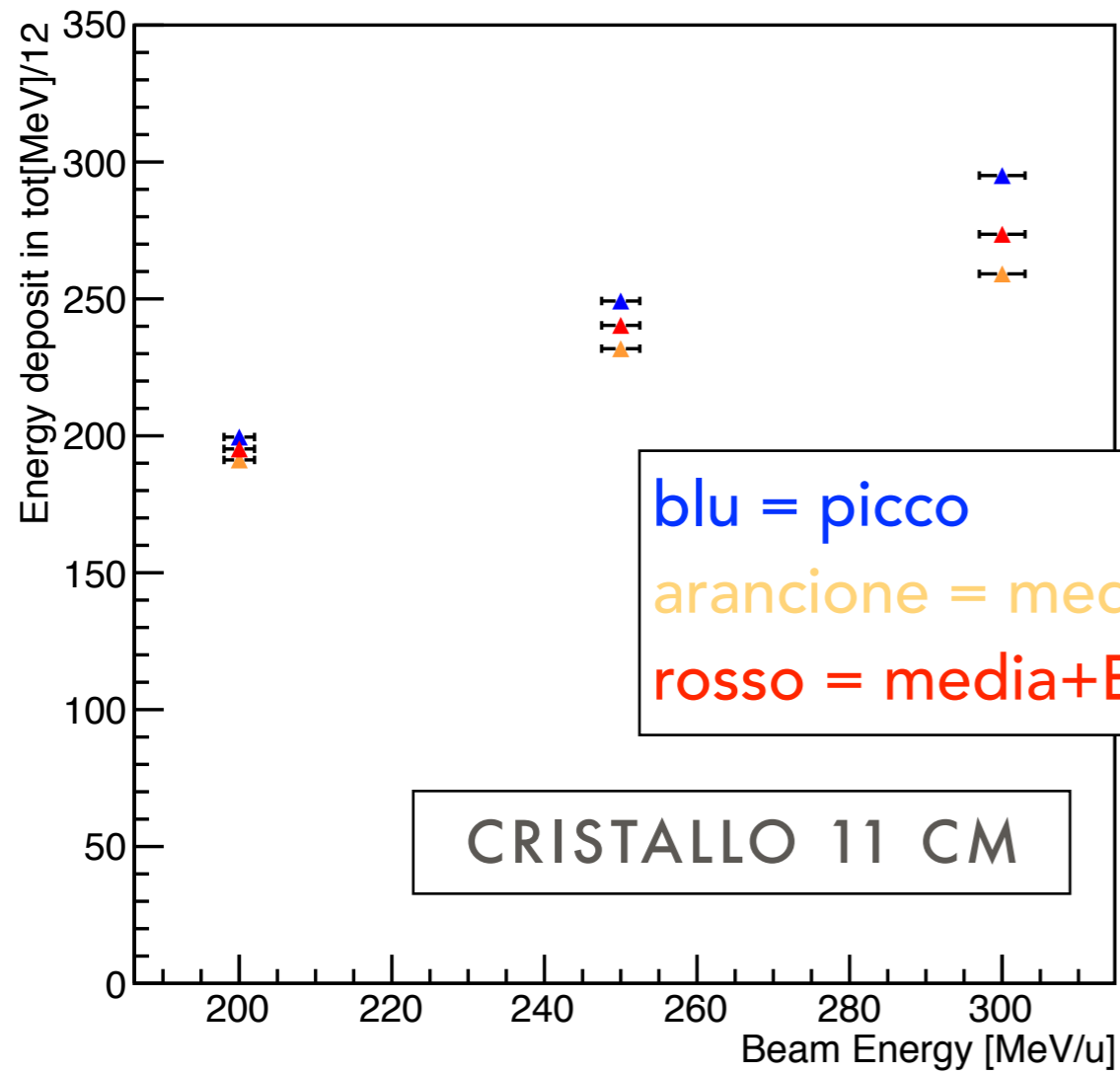




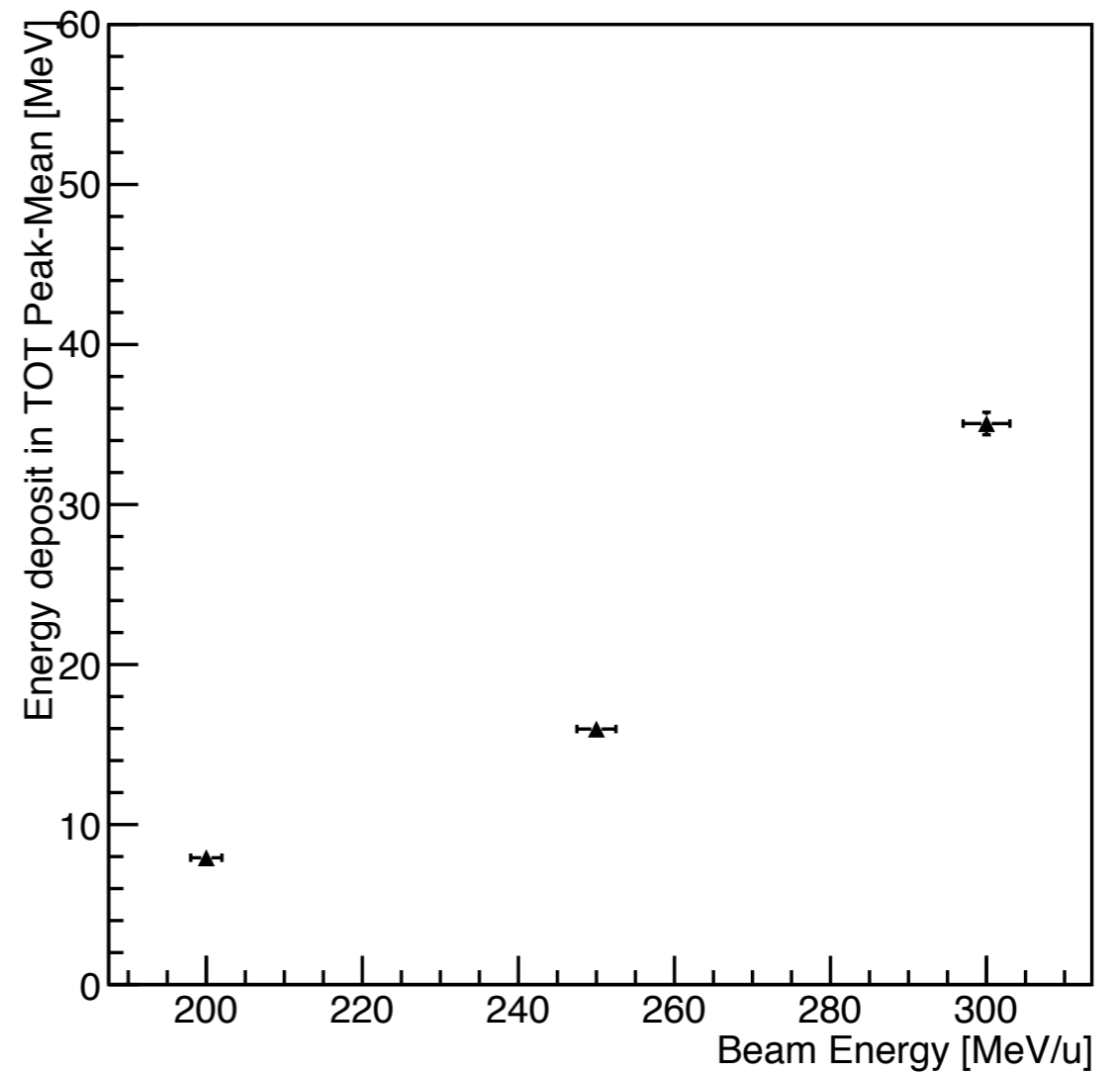
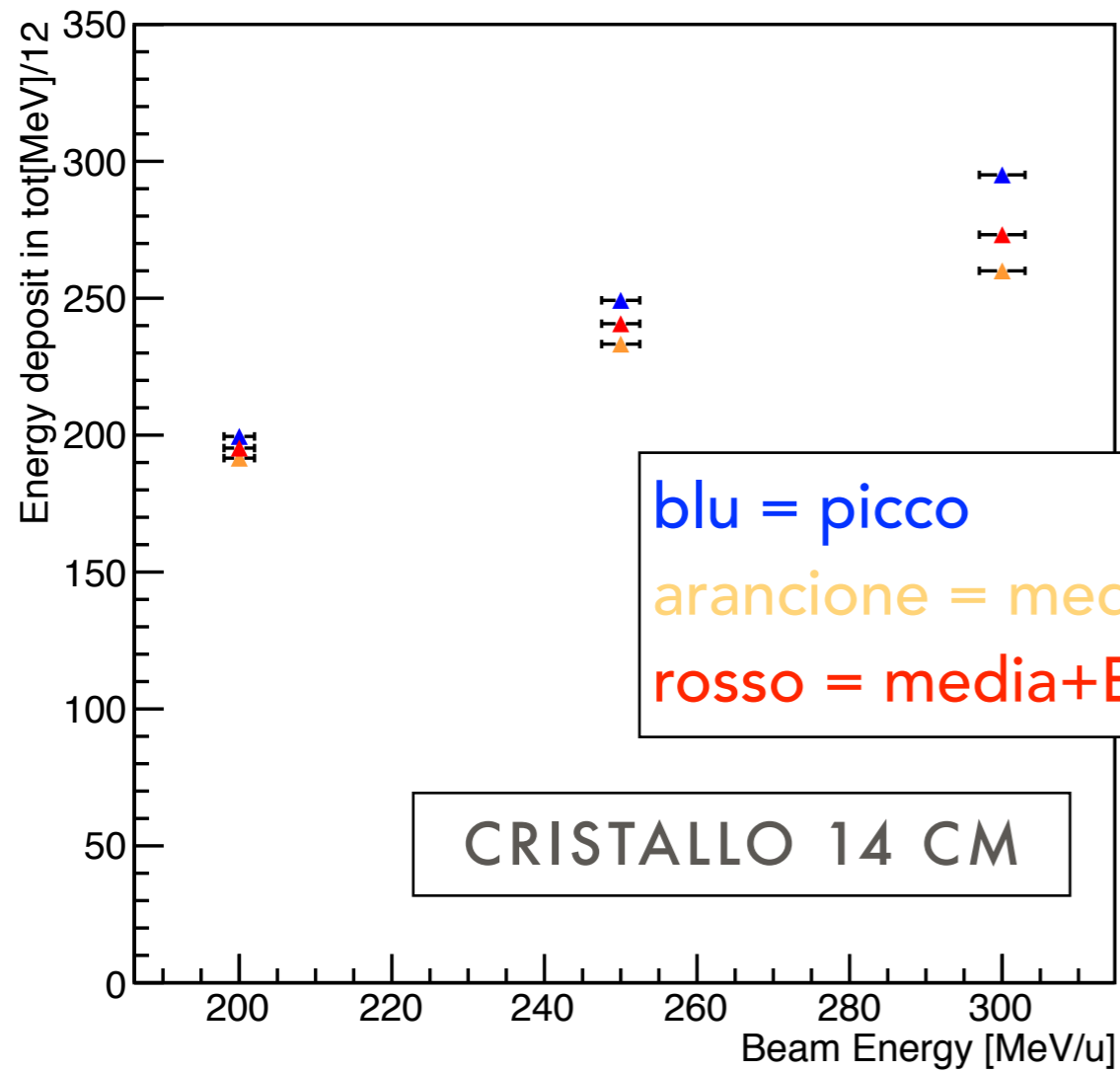
Energy [MeV] carried out by neutrons



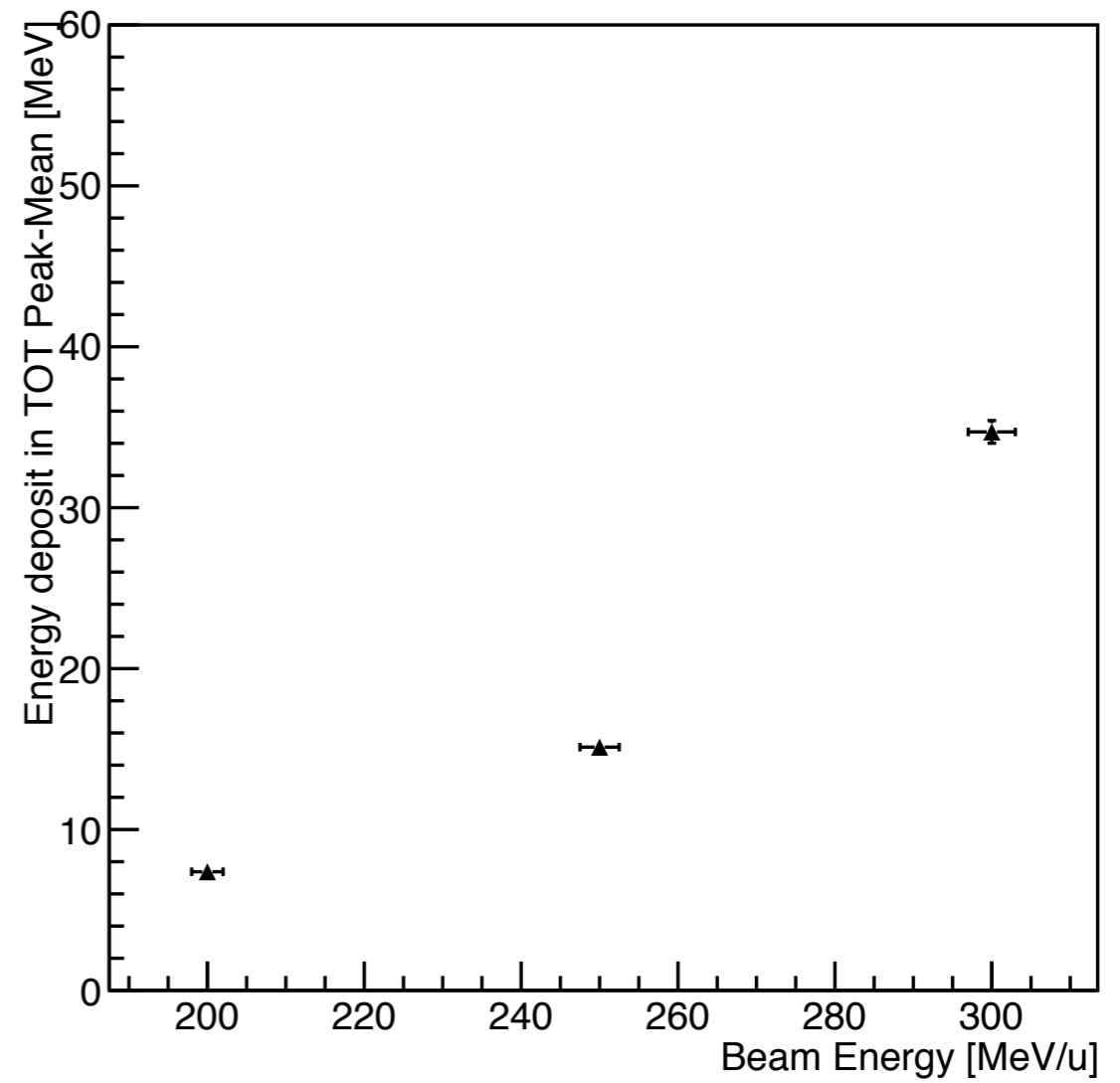
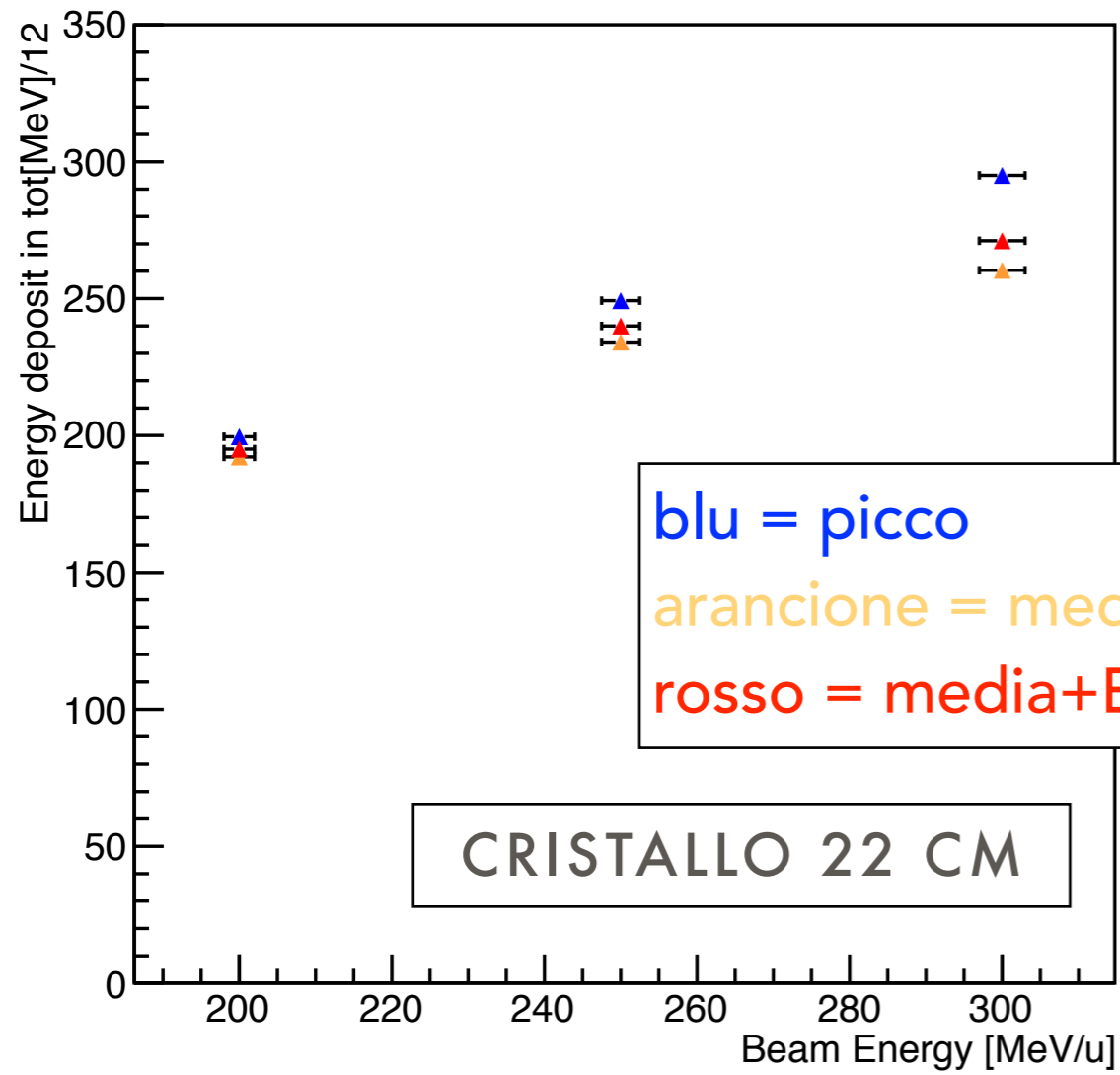
CALORIMETRO



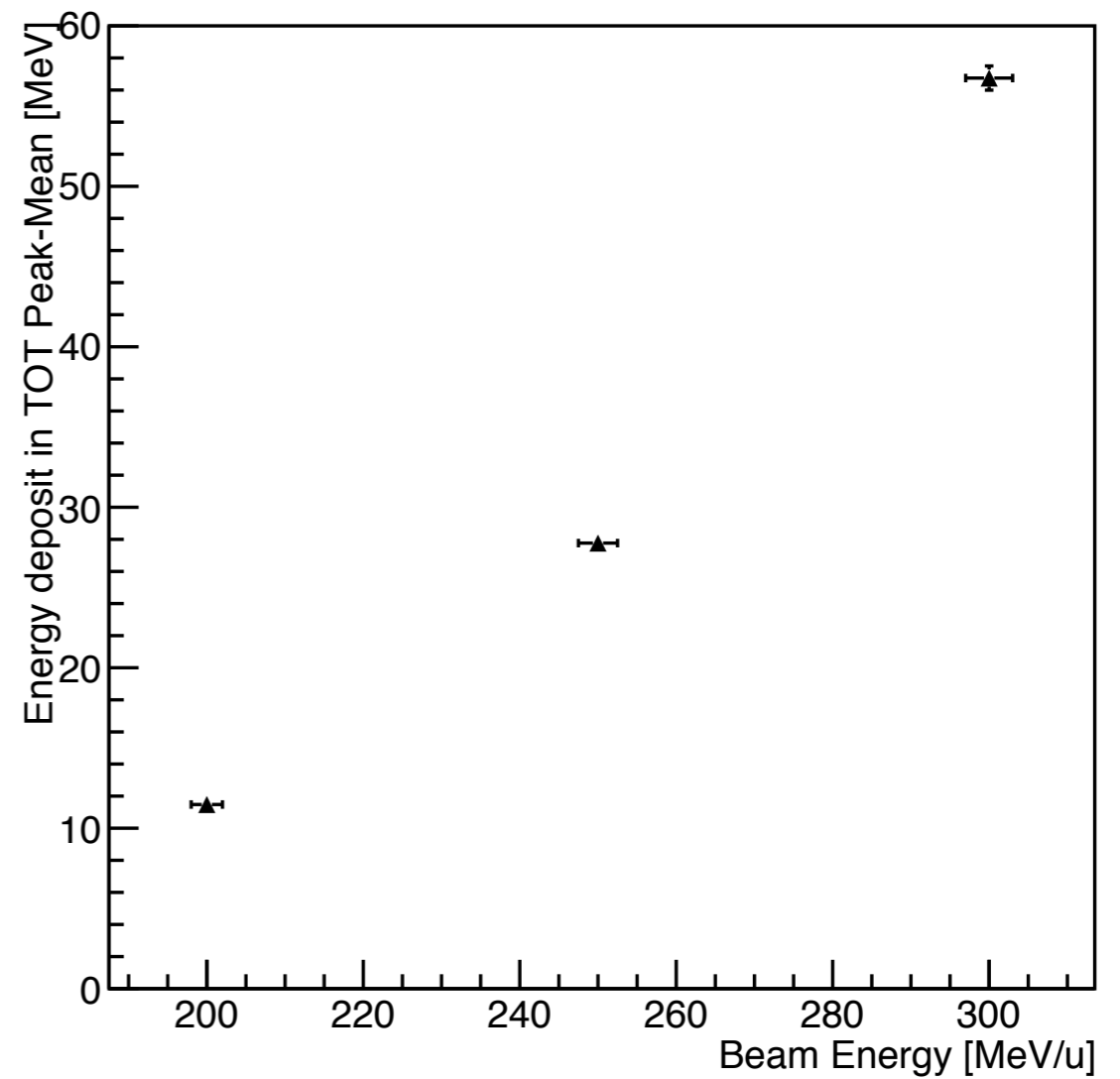
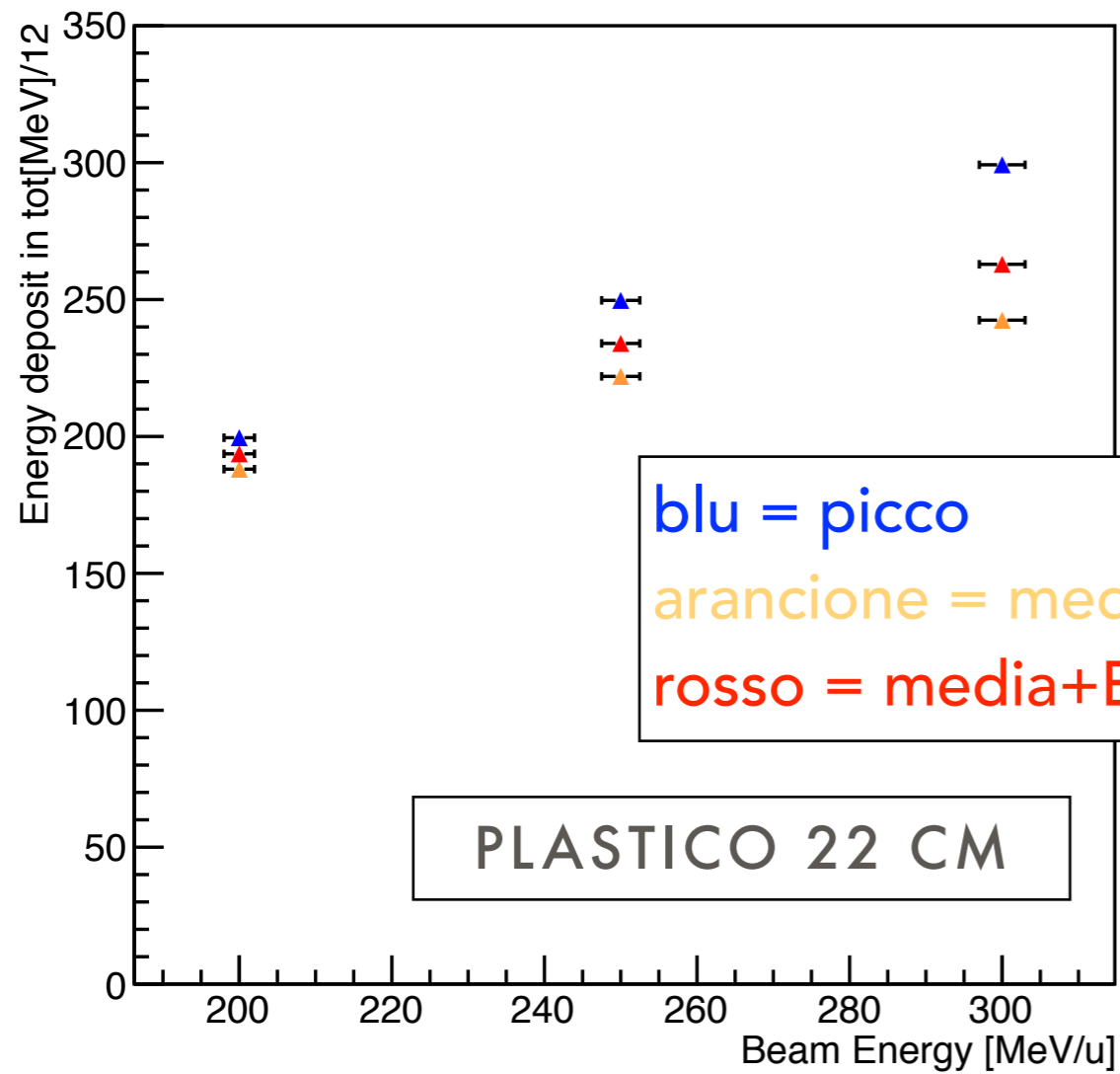
CALORIMETRO



CALORIMETRO

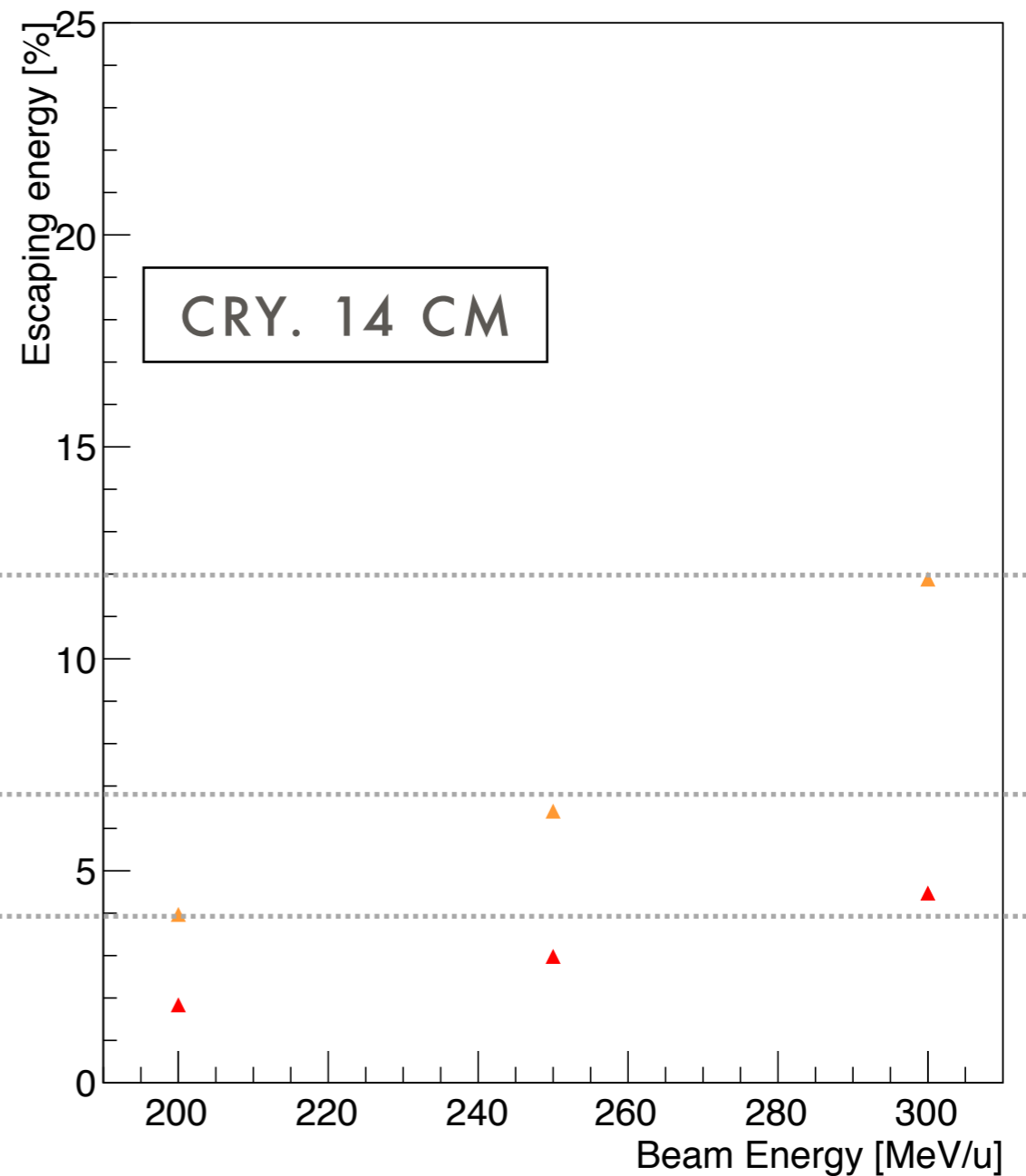
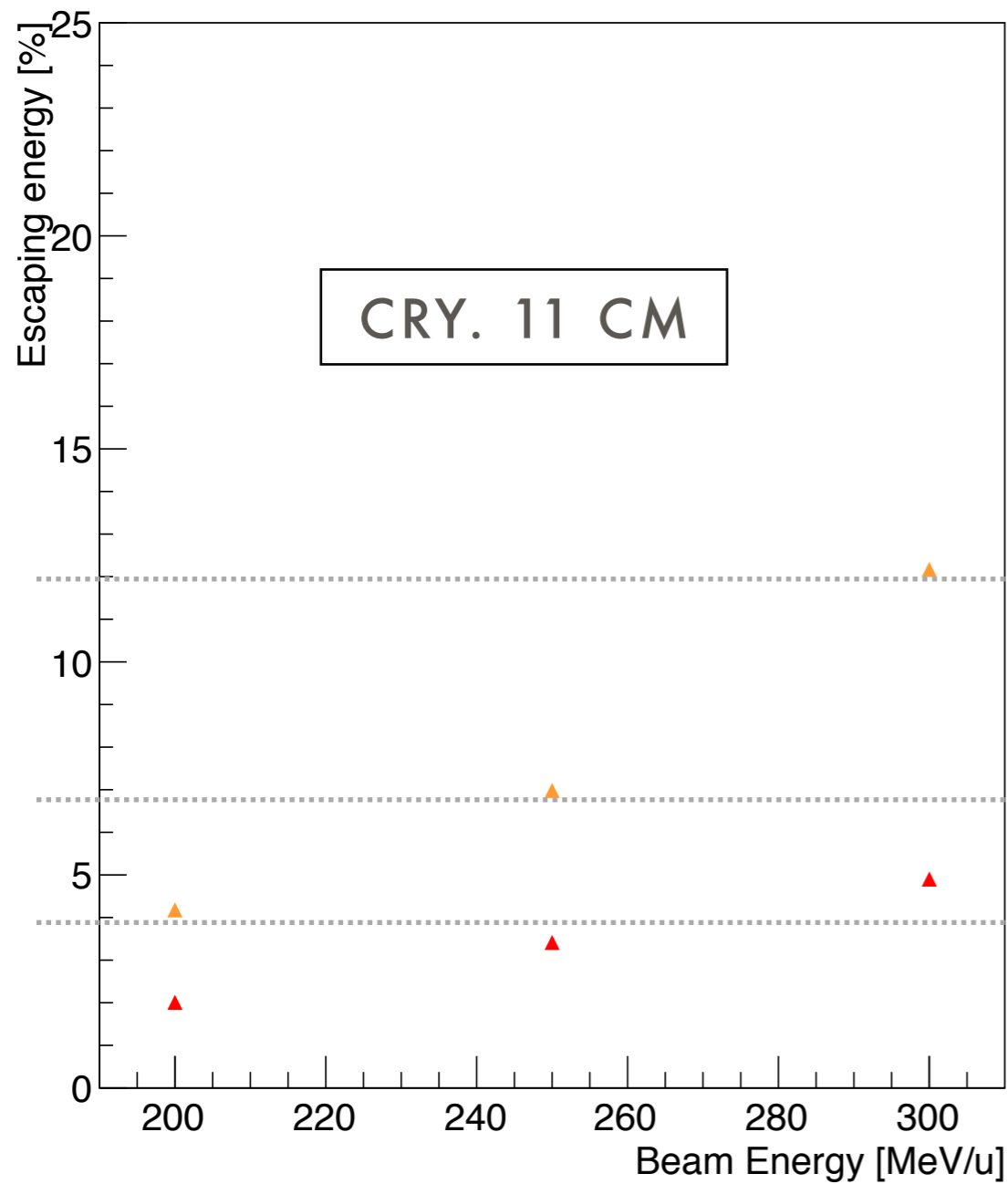


CALORIMETRO



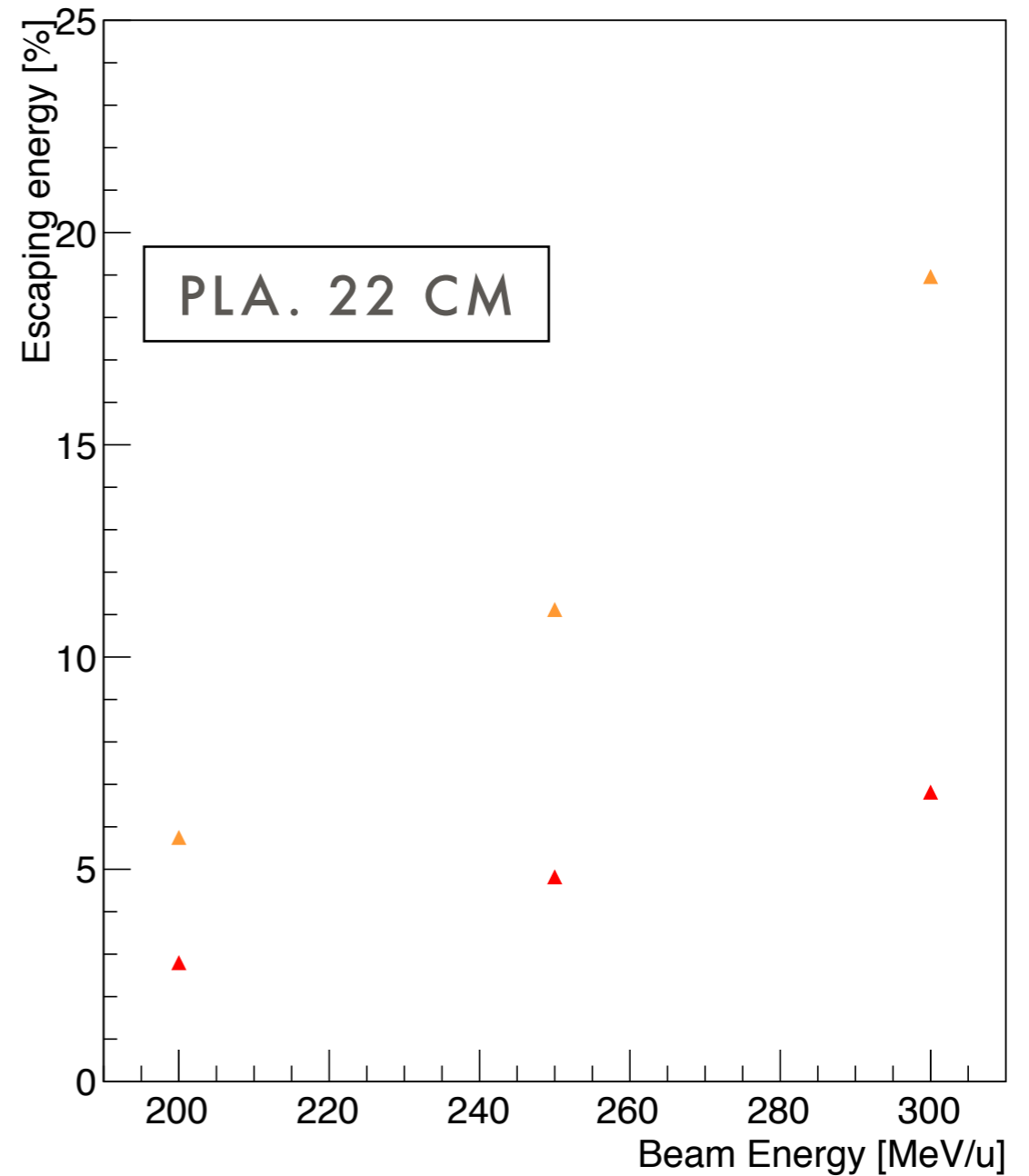
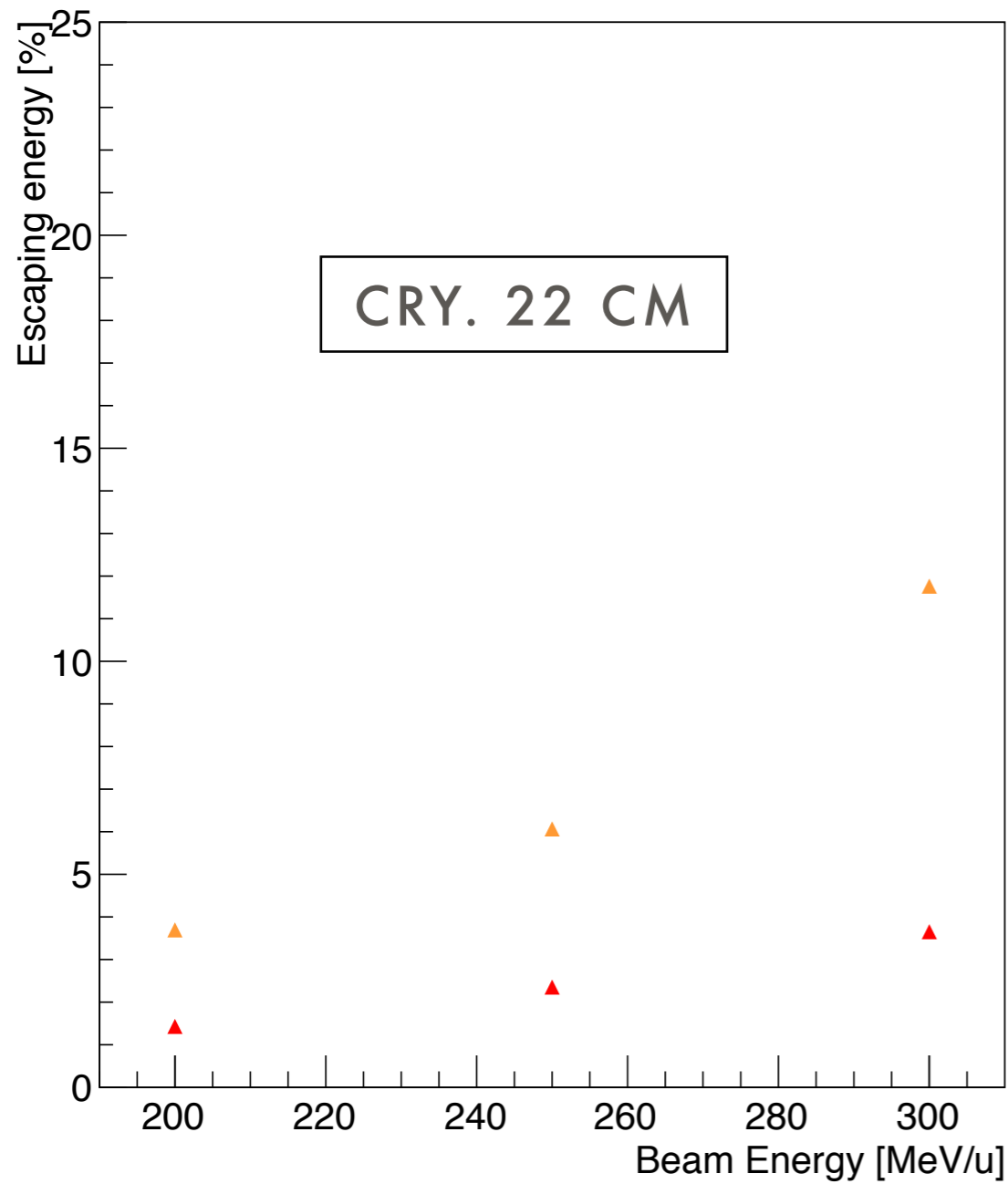
CALORIMETRO

arancione = total energy lost
rosso = energy lost with neutron



CALORIMETRO

arancione = total energy lost
rosso = energy lost with neutron



CALORIMETRO

Il punto è che da un certo punto di vista la lunghezza delle cristallo conta "poco" per i neutroni (che tanto ce li perdiamo lo stesso, 2-5%) mentre diventa rilevante per i carichi, es. dall'event display di Giuseppe e co. :

