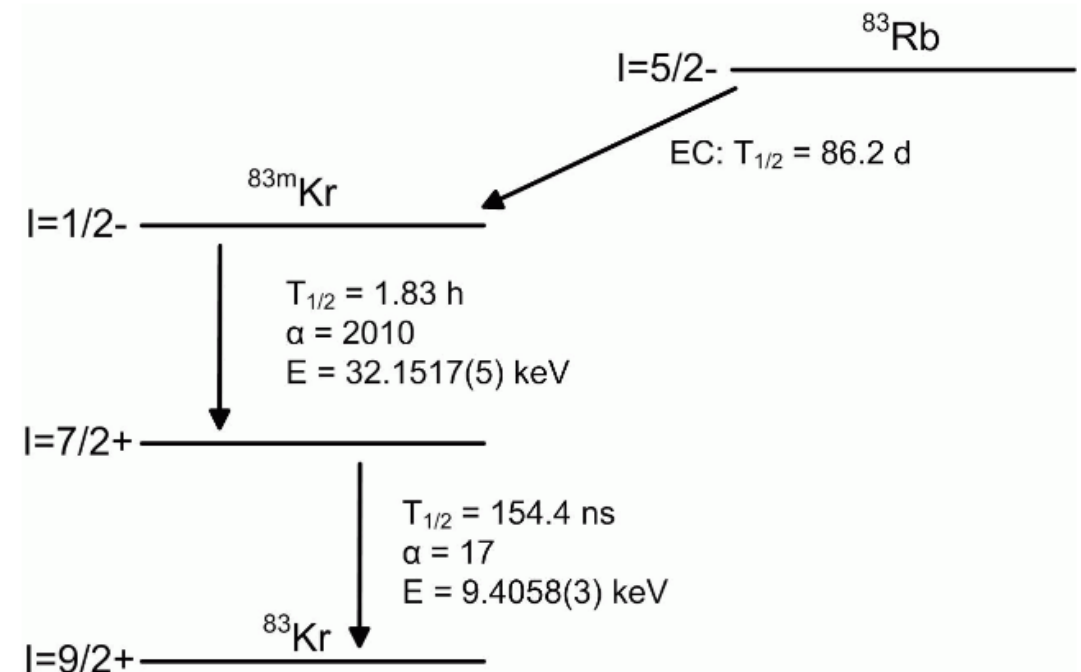


Krypton Calibration for CYGNO_04 New Geometry



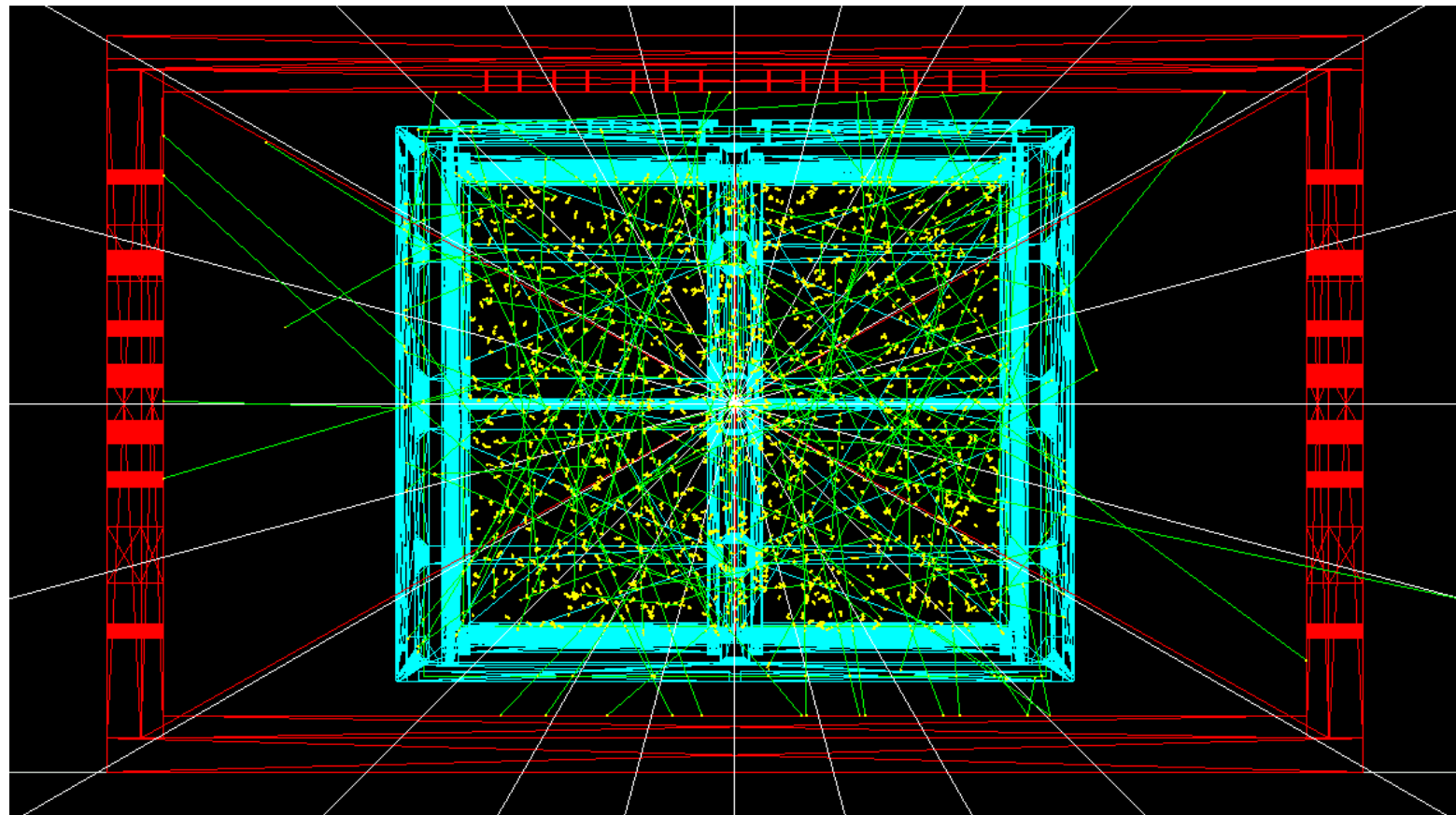
Source: Krypton-83
Excitation energy = 41.55 keV
Half life = 1.83 hrs
Decay mode = IT (Isomeric Transition)

Rb has half life of about 3 months
Produces ^{83}Kr that emits 32.1 keV and 9.4 keV photons 155 ns apart
half life of about 1.83 hrs

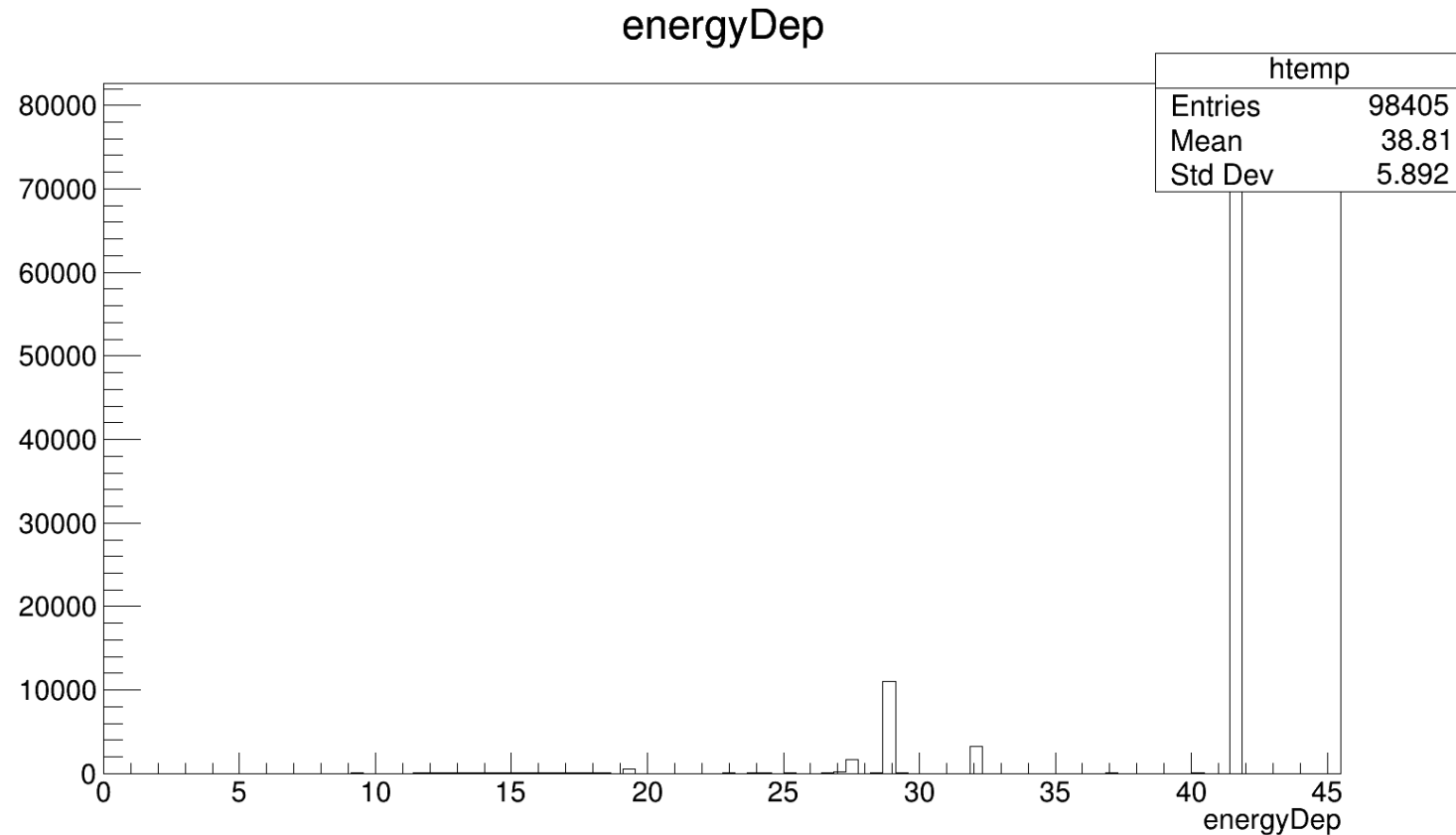


Source (Kr83m) is placed at
center (0,0,0) confined in
CYGNO_gas volume which
Half x = 50 cm
Half y = 40 cm
Half z = 25 cm
Type of source is defined as
“Volume” and shape as “Para”

Number of events: 100 k

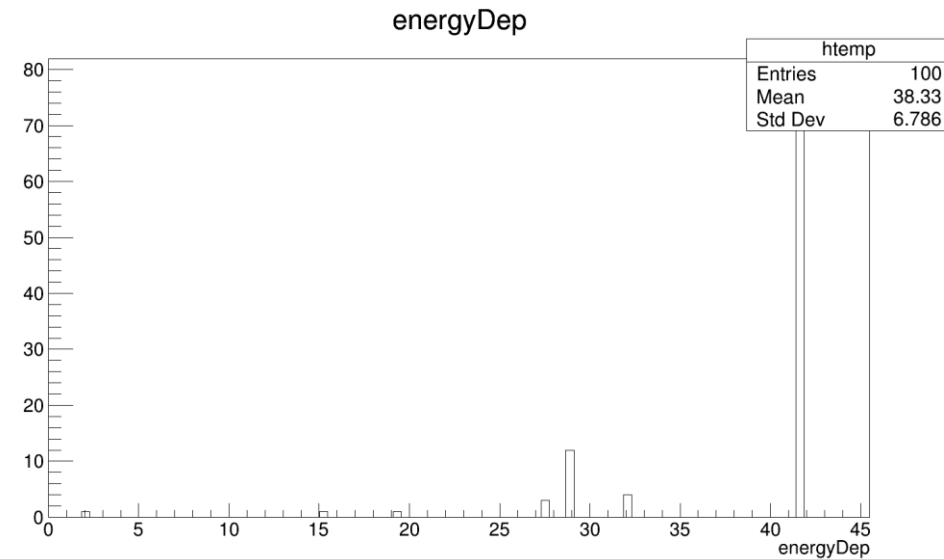
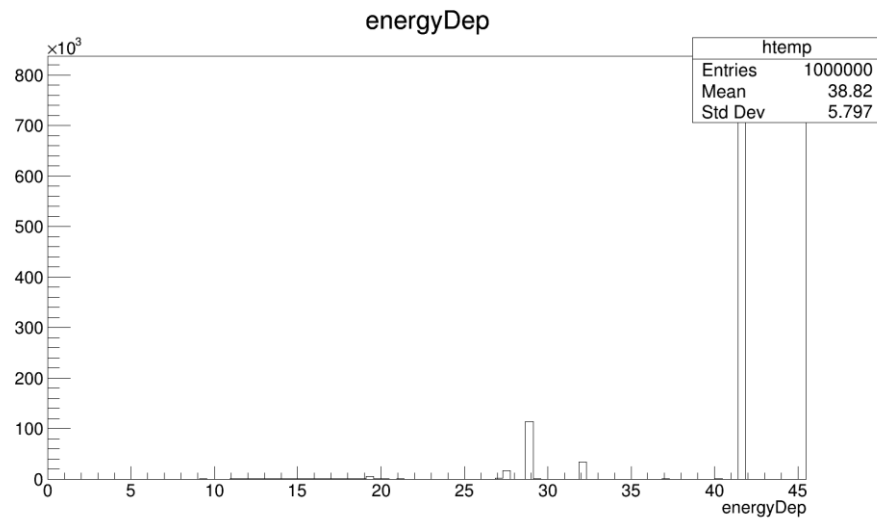
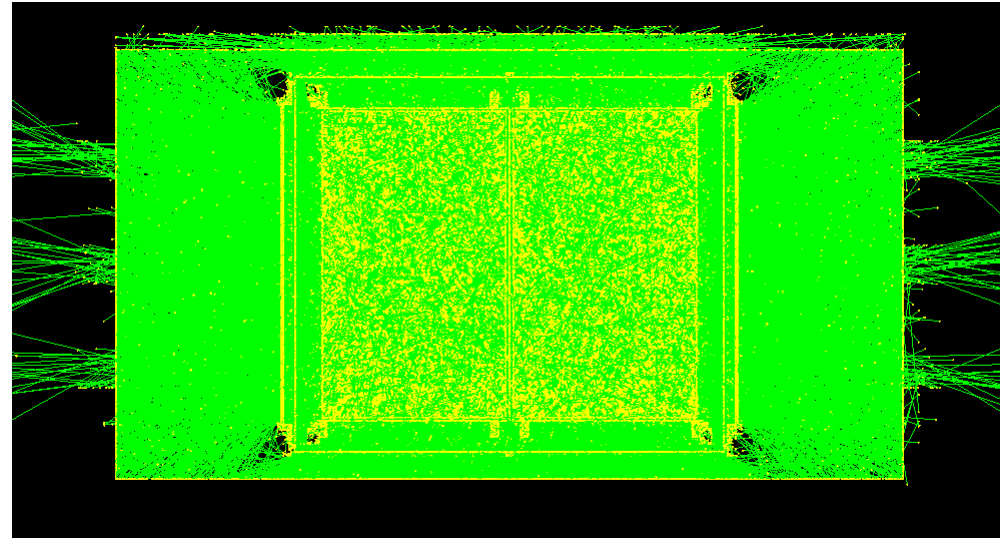
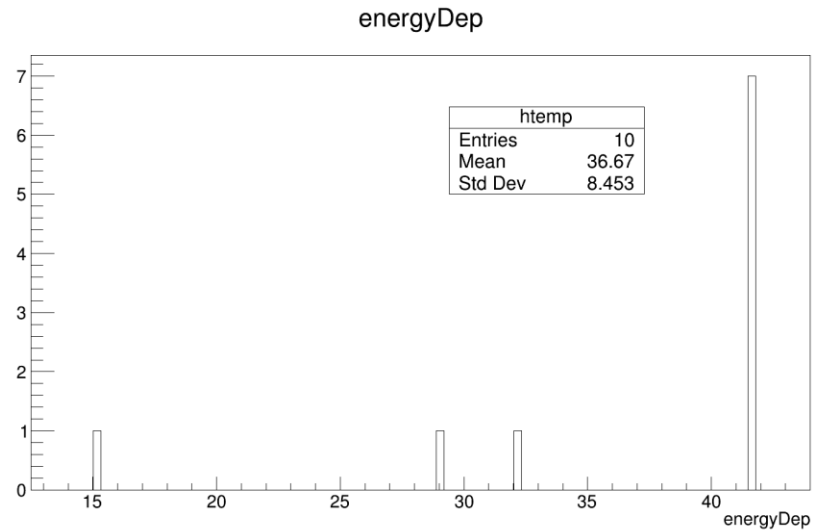


Source Calibration for CYGNO_04 New Geometry



The histogram shows a sharp energy deposition peak around 41–42 keV, with a much smaller structure around 32 keV and some near 30 keV. In https://www.nndc.bnl.gov/nudat3/indx_dec.jsp database we can see that ^{83}Kr emits also X-rays of 12.6 keV that may explain the peak around 29 keV when the X-rays escape the sensitive region (41.5 - 12.6 keV)

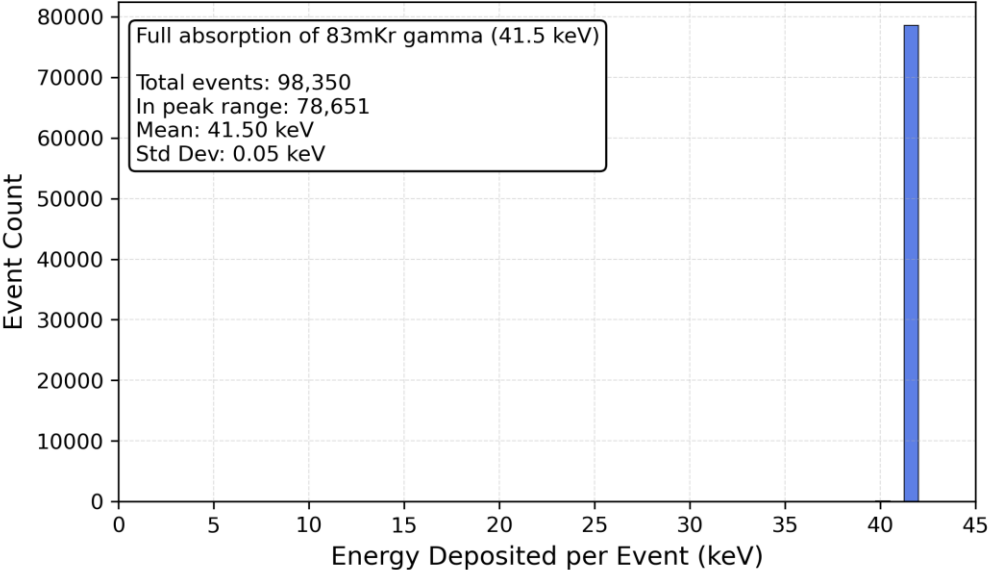
Source Calibration for CYGNO_04 New Geometry



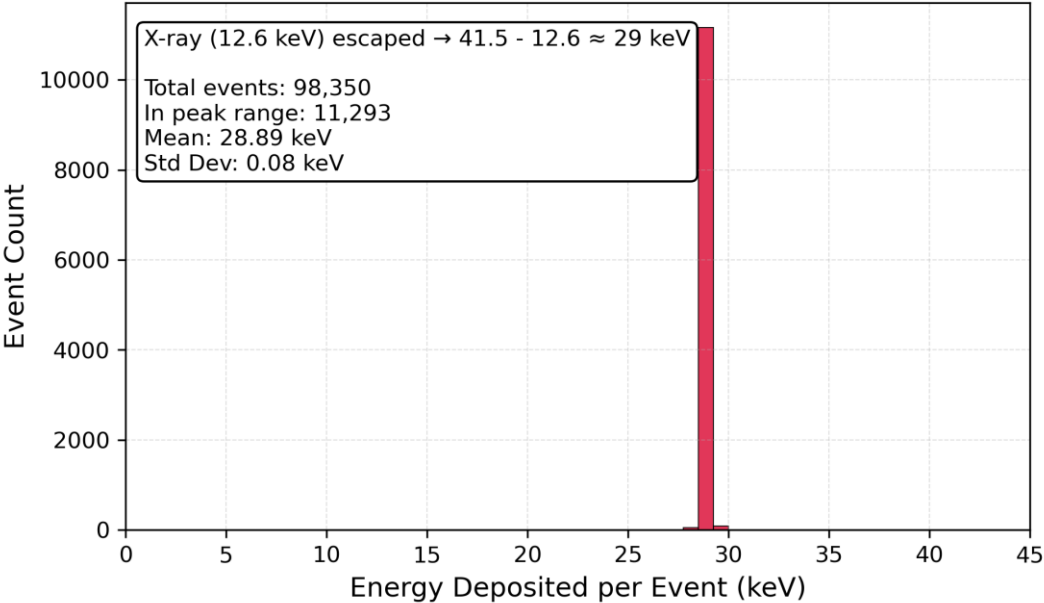
Source Calibration for CYGNO_04 New Geometry



Full Peak (~41.5 keV)



Escape Peak (~29 keV)



Mid Peak (~32 keV)

