



Lifetime Measurements using fast timing array of LaBr_3 detectors

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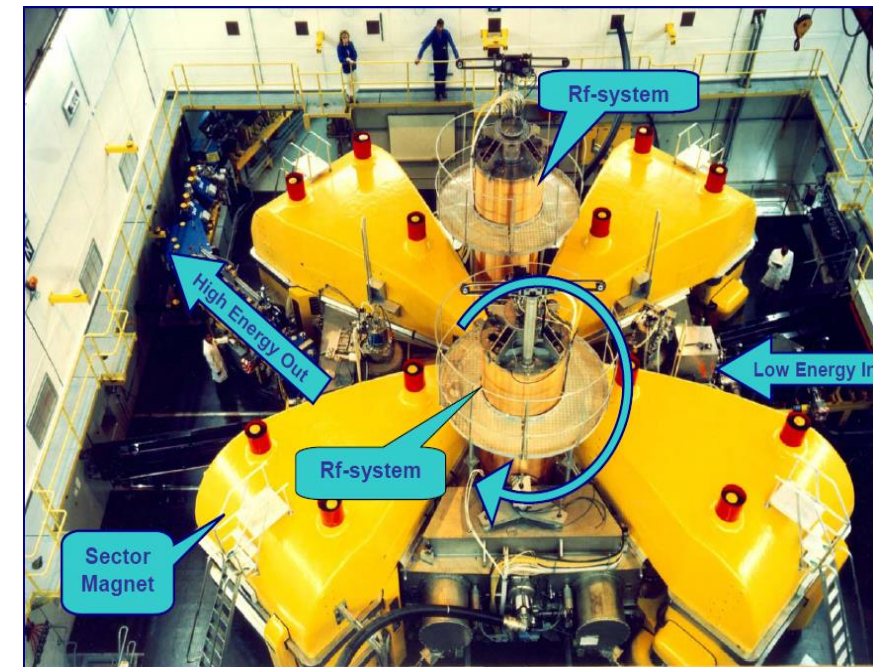


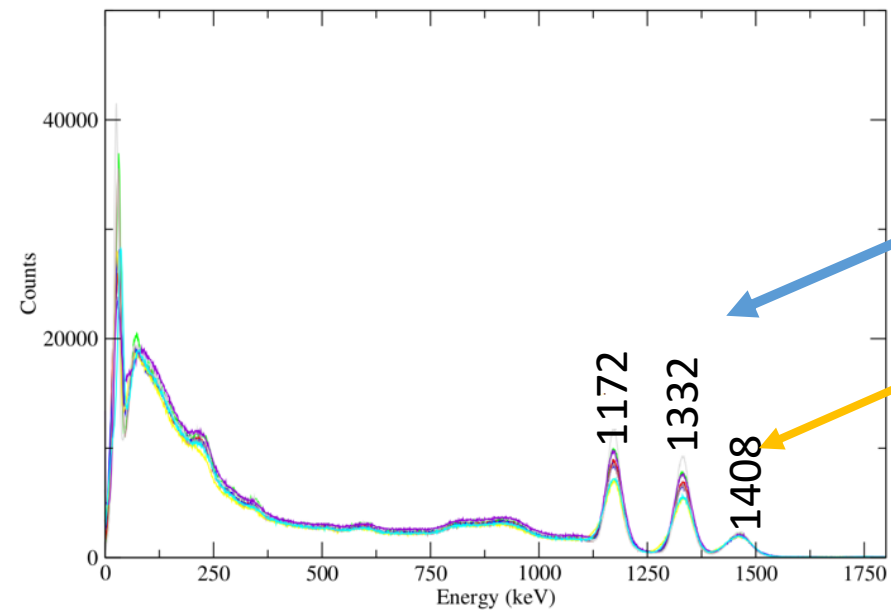
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An array of LaBr_3 detectors

The Separated Sector Cyclotron

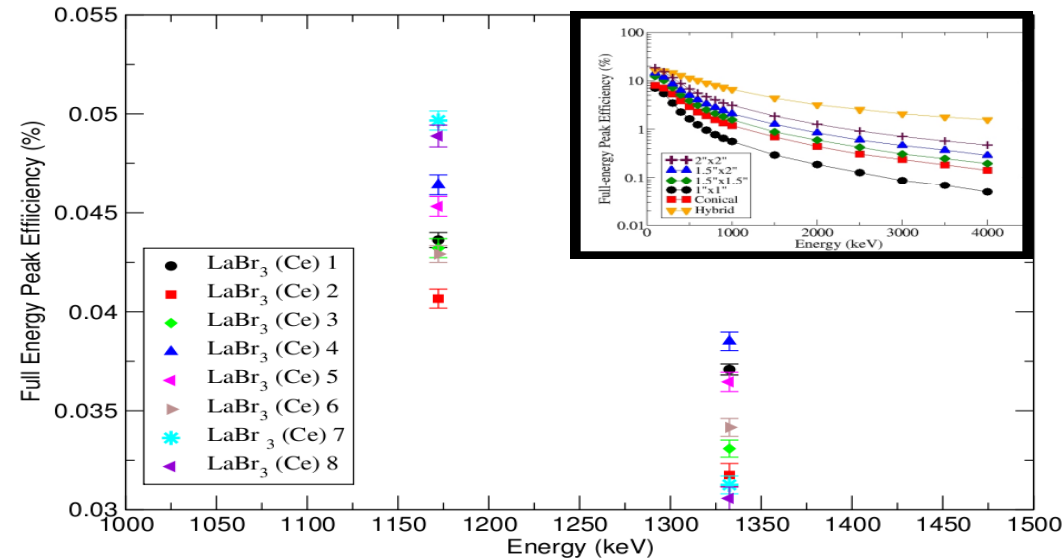
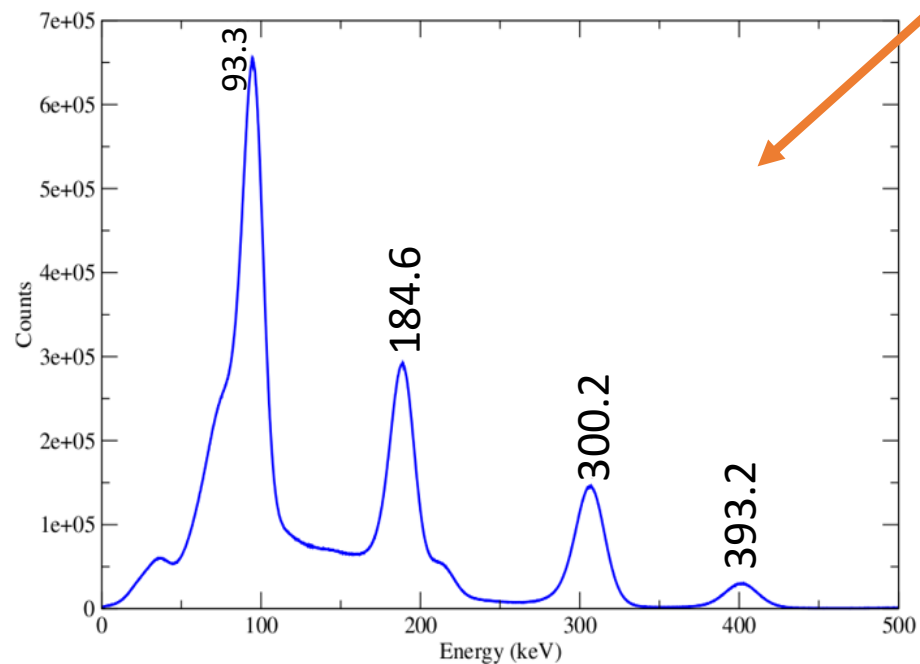




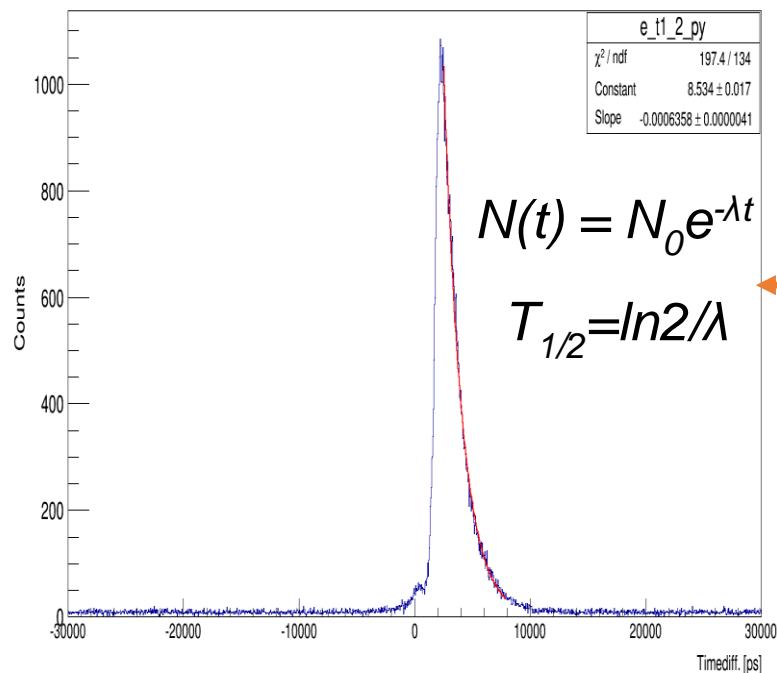
Spectra obtained from ^{60}Co radioactive source

Internal Radioactivity of LaBr_3 detector

Spectrum obtained from ^{67}Ga radioactive



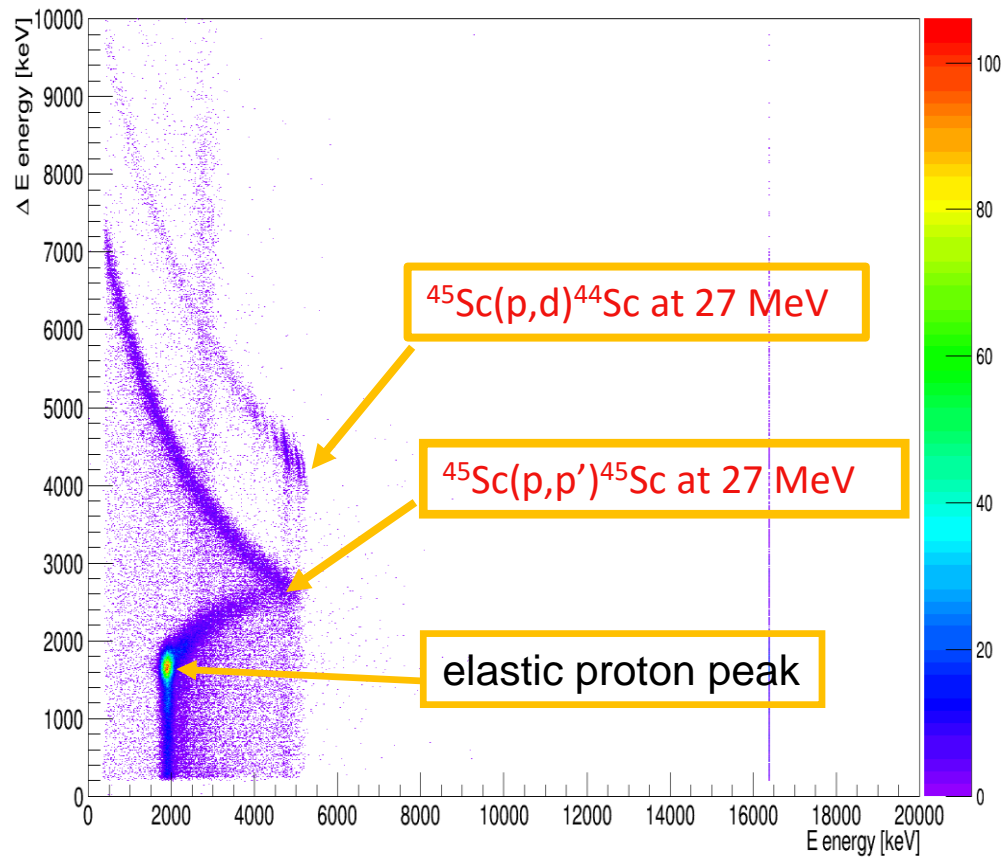
Total efficiency results of the LaBr_3 with a source placed at 240mm from the detectors is $\sim 0.28\%$.



$$N(t) = N_0 e^{-\lambda t}$$

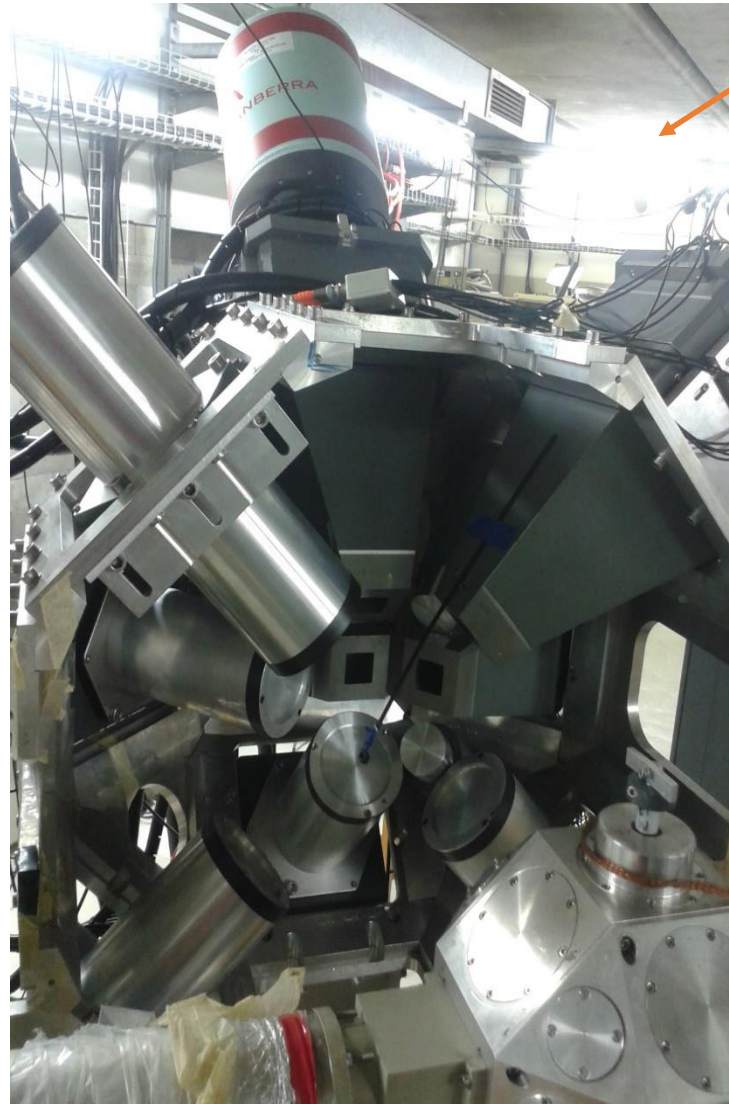
$$T_{1/2} = \ln 2 / \lambda$$

we obtain the half-life of the 184.6 level to be $T_{1/2} = 1.090 \pm 0.007$ ns.



Plot obtained from the particle telescope used to select the reaction channel.

In Beam fast timing experiment



AFRODITE array
plus LaBr₃ detectors

CD silicon particle
telescopes

