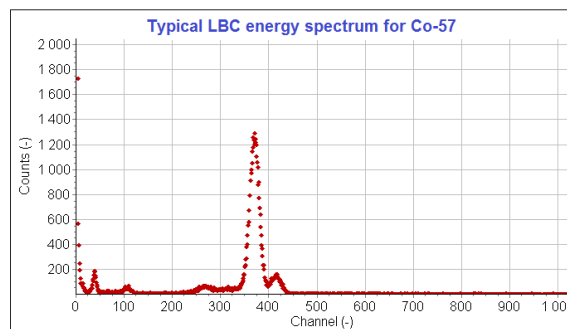
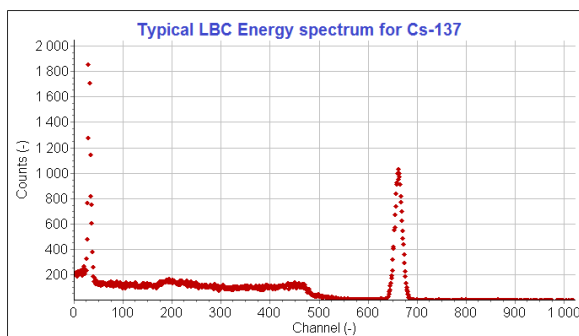


High resolution LBC scintillators

LBC (Lanthanum BromoChloride) $\text{LaBr}_{2.85}\text{Cl}_{0.15}\text{:Ce}$ scintillators have similar properties to the well-known $\text{LaBr}_3\text{:Ce}$ crystals. Energy resolutions around 3 % FWHM (662 keV) are standard and the material is mechanically a little stronger than LaBr_3 . In contrast to background free CeBr_3 , LBC crystals suffer from the same La-138 background as LaBr_3

Density	:	4.90 g / cc
Maximum emission	:	380 nm
Decay time (typical)	:	35 ns (primary component)
Refractive index	:	1.90
Photoelectron yield compared to NaI(Tl)	:	140
Hygrosopic	:	YES



Below the typical resolution vs energy is summarized.

Energy (keV)	Typical Resolution LBC	Typical resolution CeBr_3	Typical resolution NaI(Tl)
30 (129-I)	15 %	22 %	16 %
59.5 (241-Am)	10 %	15 %	12 %
122 (57-Co)	6.4%	10 %	9 %
356 (133-Ba)	4 %	5 %	8 %
662 (137-Cs)	3 %	4 %	7 %
1332 (60-Co)	2.5%	3 %	5.5 %

Last revision
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