CLLB
Cs_2 Li La Br_6 (Ce) Scintillation Material

CLLB is a gamma-neutron scintillation detector that is well suited for many different classes of hand-held instruments. Using Pulse Shape Discrimination electronics for Neutron Detection, customers can eliminate the need for an additional set of electronics and ^{3}He detector. With dual gamma/neutron detection and an energy resolution near 4%, CLLB offers a dramatic change in what is possible in a hand-held instrument.

CLLB Typical Data		Value
Energy Resolution (Cs137)		<4.0%
Density		4.2g/cc
Light Output		40,000 ph/MeV
Hygroscopic		Yes
Wavelength of emission max		420nm
Decay time	γ	180ns (61%) 1080ns (39%)
	n	180ns (50%) 1080ns (50%)
GRR		10^{-7}

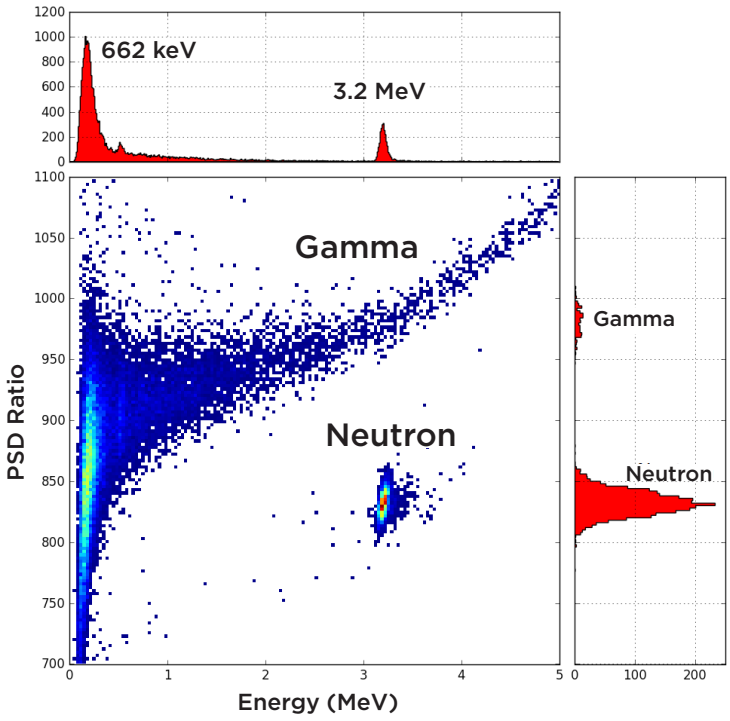


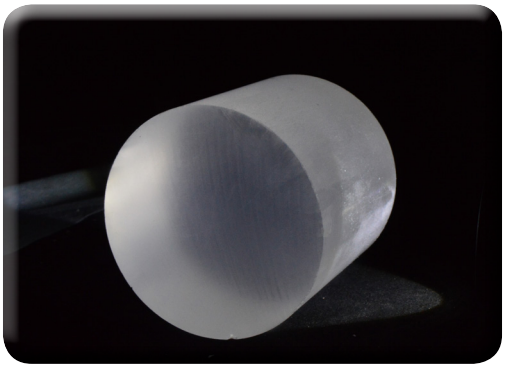
Figure 1. Pulse shape discrimination to show separation between Gamma / Neutron pulses

Covered by patents
US7525100, US7910894, JP5096005, and other patents issued and pending

In the past you needed both an ^{3}He and NaI(Tl) detector to detect gamma and neutron.

CLLB: Your compact dual gamma neutron detector solution

A. Gamma detector (Sodium Iodide)
B. Neutron detector (Helium^3 Tube)
C. Gamma - Neutron Dual detector (CLLB)



2 inch diameter x 2 inch ***CLLB*** **Crystal**

CRYSTALS

SAINT-GOBAIN

CLLB Scintillation Material

Cs2 Li La Br6 (Ce)

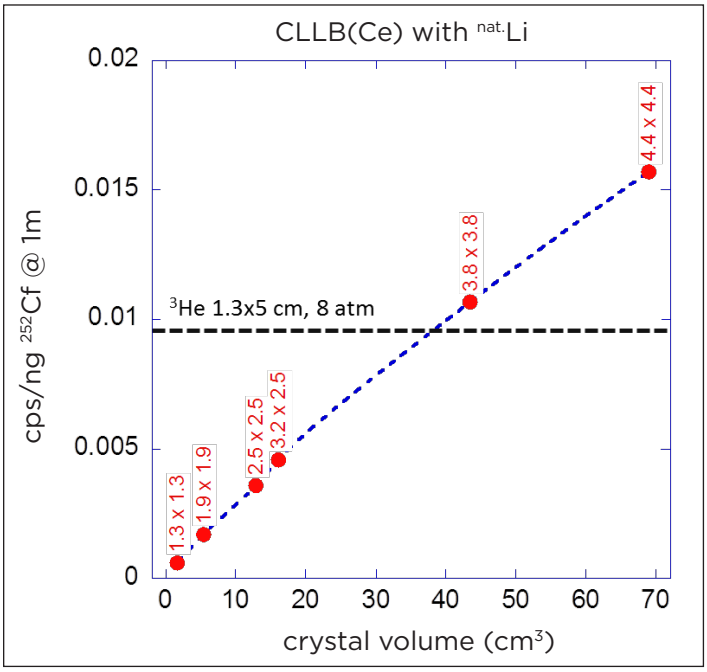


Figure 2. CLLB / ³He Comparison

CLLB Crystal
Defect Free Growth

2 inch diameter x 4 inch thick

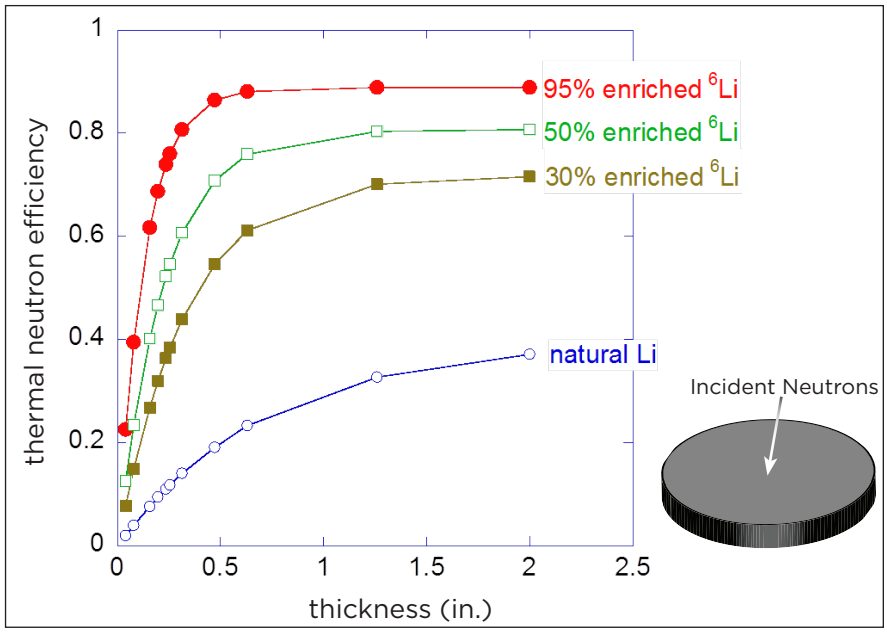


Figure 3. MCNPX2.6 simulations

SAINT-GOBAIN

Saint-Gobain Crystals

www.crystals.saint-gobain.com

Covered by patents US7525100, US7910894, JP5096005, and other patents issued and pending

Manufacturer reserves the right to alter specifications.

(11-18)