

CLLB

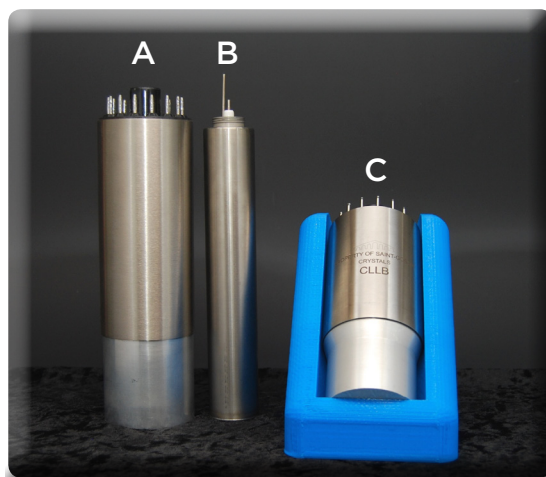
Cs₂ Li La Br₆ (Ce) Scintillation Material

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 ³He 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

In the past you needed both an ³He 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 (Helium³ Tube)
- C. Gamma - Neutron Dual detector (CLLB)

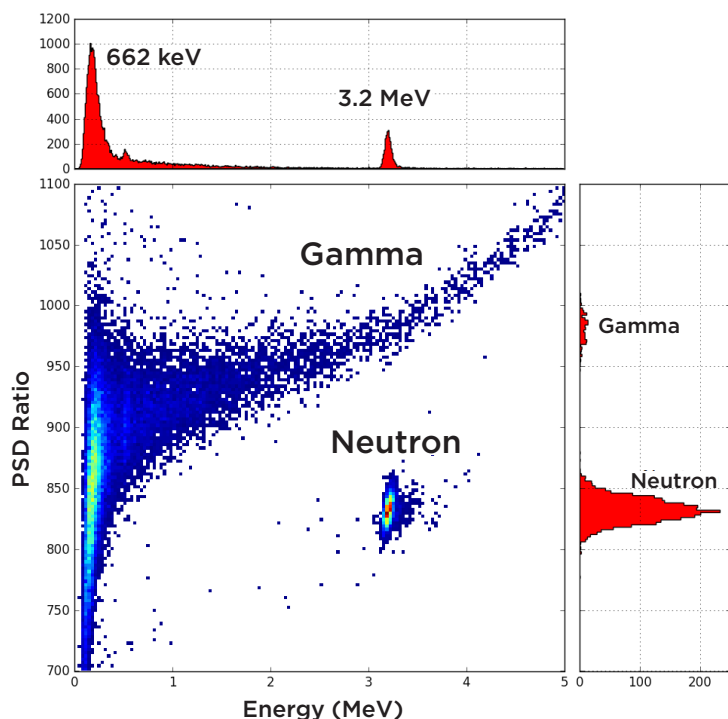
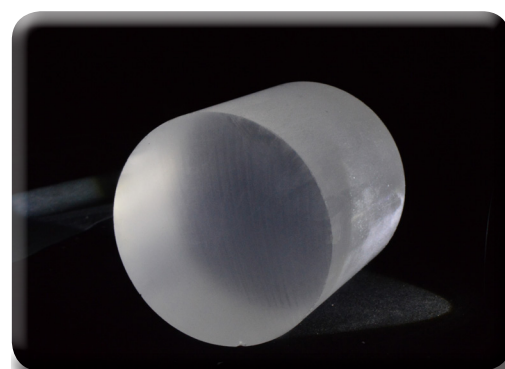


Figure 1. Pulse shape discrimination to show separation between Gamma / Neutron pulses



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

CLLB Scintillation Material

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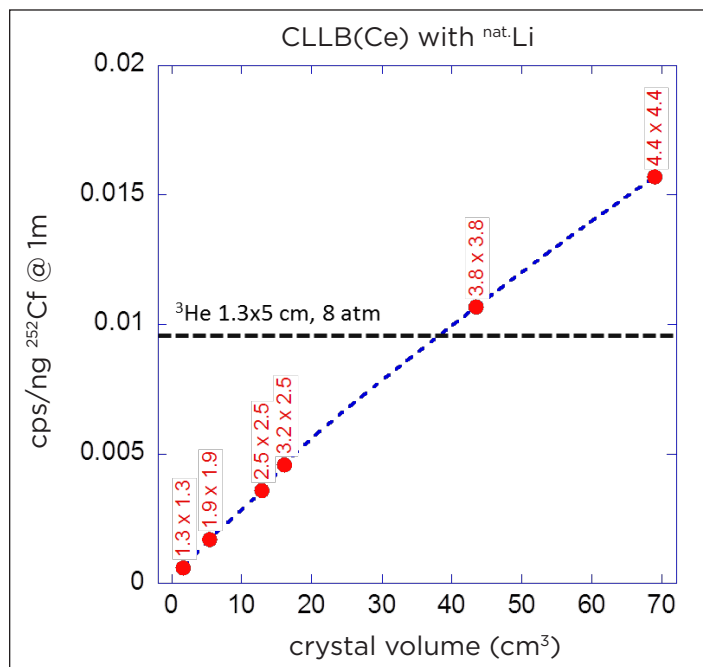


Figure 2. CLLB / ³He Comparison

CLLB Crystal Defect Free Growth



2 inch diameter x 4 inch thick

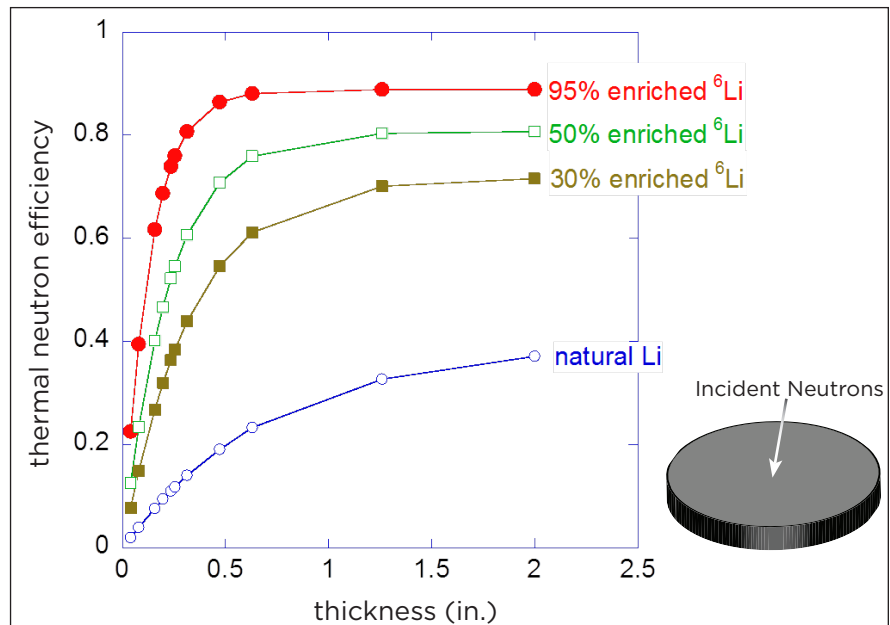


Figure 3. MCNPX2.6 simulations