

LiCAF

Flexible sheet for Neutron detection

400 mm square sheet scintillator

Flexible neutron scintillator consisting of LiCAF:Eu crystals

Specific Features

- n/γ discrimination
- Size/shape flexibility
- High light yield
- Transparency
- Non-hygroscopicity

Applications

- Radiation portal monitor
- Handheld survey meter
- Wearable monitor
- Position sensitive detector

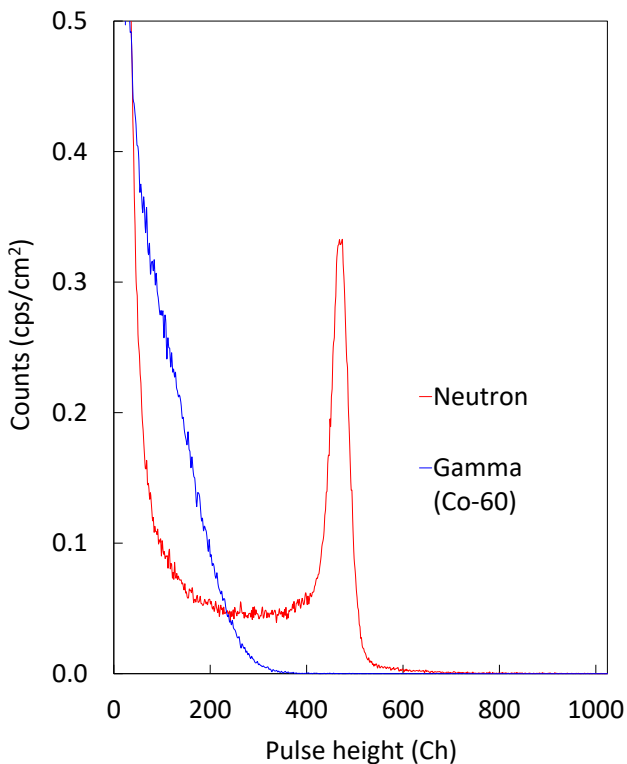


Smart phone-sized detector module

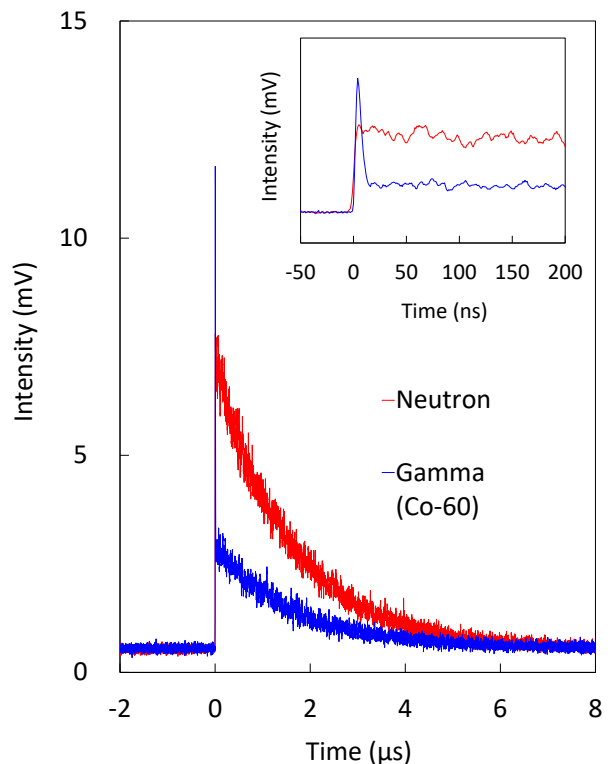


He-3 compatible detector module

n/γ discrimination performance of LiCAF flexible sheet



Pulse height spectra of LiCAF sheet.



Pulse shape profiles of LiCAF sheet.
(PSD version)

Tokuyama provides novel scintillator for neutron detection. The scintillator is a flexible sheet consisting of LiCAF crystals and performs excellent neutron detection efficiency and gamma rejection both by pulse height and pulse shape discrimination. Unique configuration, in which wavelength shifting (WLS) fibers are incorporated in the scintillator, makes efficient light collection possible from large area scintillator to small photodetector. Specific features of the LiCAF sheet in shape-flexibility and compatibility with WLS fiber allow on-demand design to meet detector configuration in various applications. As well as adequate scintillation performance, productivity and scalability (~ square meter) of the LiCAF sheet realize low cost solution for the replacement of the He-3 proportional counter especially in security applications.

Physical and Scintillation Characteristics of LiCAF flexible sheet

^6Li Content	$0.9 \sim 3.6 \times 10^{21}$ atoms/cm ³
Light yield	~ 18,000 photons/neutron
Decay constant	1.6 µsec
Luminescence wavelength	370 nm
Density	1.3 ~ 2.0 g/cm ³

Values are not for specifications

C&A Corporation