SCIONIX

Data Sheet

High resolution $SrI_2(Eu)$ Scintillation detectors

Europium doped Strontium Iodide scintillation crystals are high resolution, low background crystals due to their extreme good proportionality and very high light output. The scintillator is relatively slow with a decay time of several microseconds. Due to some intrinsic self-absorption, special surface treatment techniques are necessary to achieve a good energy resolution.

$SrI_2(Eu)$ crystals are available up to 38x38 mm size.

Properties

Density [g/cm^3]	4.6
Hygroscopic	Yes
Wavelength of emission [nm]	400-480
Refractive index @ emission max	1.85
Decay time [µs]	1-5 (size dependent)
Energy resolution [%] @ 662 keV	Approx. 3.5 %
Light yield [photons/keV γ]	80
Photoelectron yield [% of NaI(Tl)] (for γ-rays)	120-140
Eu concentration	2 mol %

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Doc. name : SrI2(Eu) datasheet

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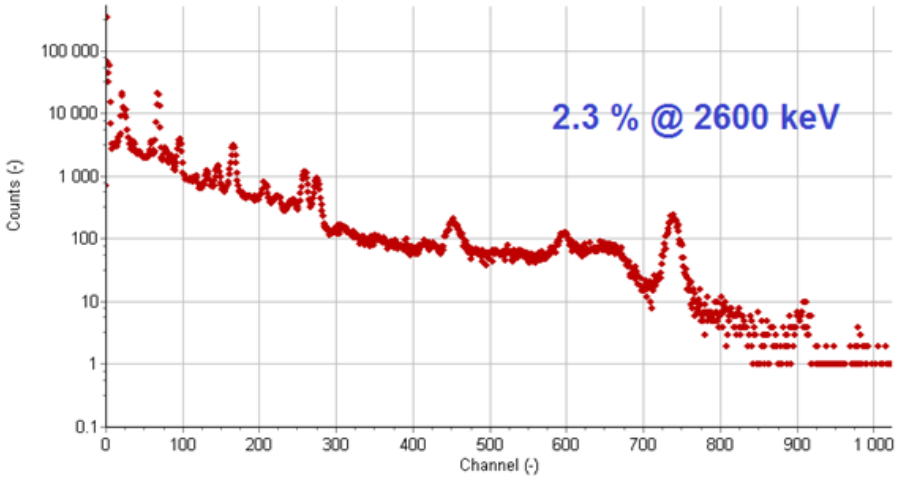
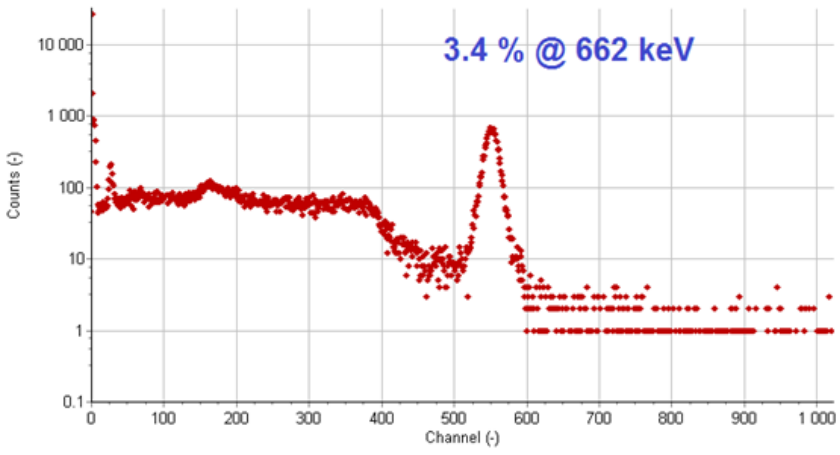
Typical energy resolution number for 38x38 mm crystals :

59.5 keV	10	%
122 keV	6	%
356 keV	5	%
662 keV	3.5	%
1332 keV	3	%
2600 keV	2.5	%



Thorium spectrum of a 38x38 mm $SrI_2(Eu)$ detector



Cs-137 spectrum of a 38x38 mm $SrI_2(Eu)$ detector

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