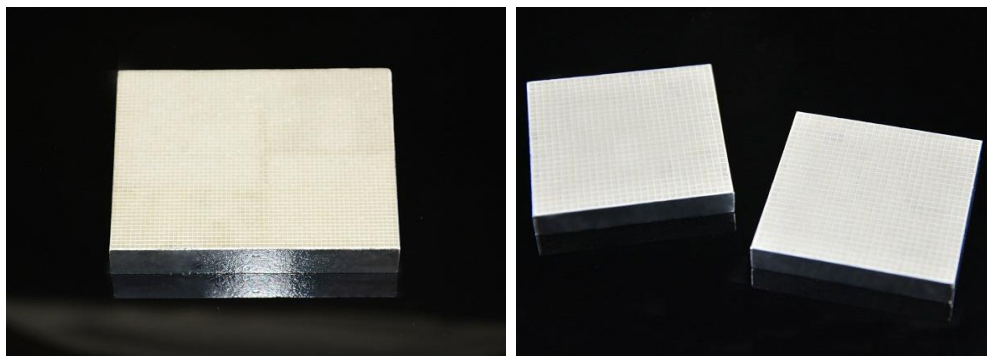


LYSO(Ce) Arrays

LYSO(Ce) array was fabricated into matrix configurations used in Position Emission Tomography(PET) facility, included the whole body, small animal and specific organ like brain, thyroid and breast. We design and develop pixelated **LYSO(Ce) crystal** in single layer array, or dual layers with depth of interaction(DOI) capability, by which the high spatial resolution can be acquired. The pixel can be small as 0.3 mm x 0.3 mm, the reflector between each pixel we used is BaSO₄ or white plastic, the vikuiti Enhanced Specular Reflector(ESR) film was available upon request.



Basic Properties

Basic Properties	
Melting Point (°C)	2070
Density (g/cm ³)	7.2
Hygroscopic	None
Hardness (ns)	5.8
Wavelength of emission max. (nm)	410
Refractive index @ emission max	1.82
Decay time (ns)	<40
Energy resolution (%)	8.0
Light yield (photons/MeV)	25000
Anti-radiation (rad)	>1x10 ⁸
Photoelectron yield (% of NaI(Tl)) (for γ-rays)	75

Features

- High light output
- High density and anti-radiation hardness
- Short decay time
- Stable chemical and physical properties

Application Notes

- Positron emission tomography (PET)
- Medically X-ray CT
- High energy physics
- Nuclear medicine
- Nuclear radiation scanner

Modules or types

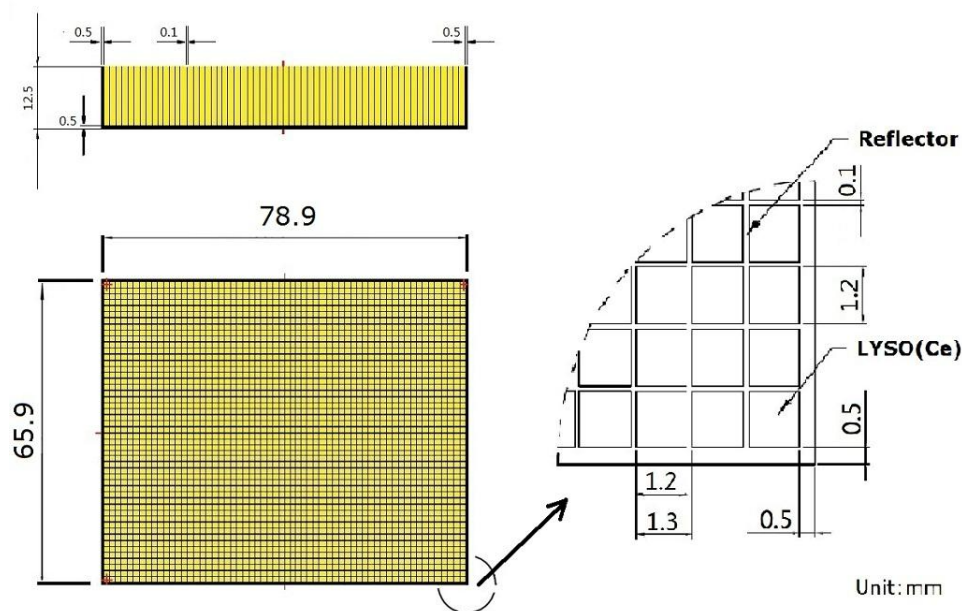
Array size: 4 x 4, 8 x 8, 16 x 16, 23 x 23, 43 x 43 pixels(customized)

Pixel size: 1 x 1 x 10 mm, 2 x 2 x 13 mm, 3 x 3 x 15 mm, 4 x 4 x 22 mm(customized)

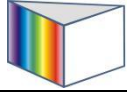
Gap between each pixel: ≥ 0.05 mm

Reflector/Separator: Barium Sulfate(BaSO₄), White Plastic, vikuiti ESR film

Pixel light uniformity in arrays: <10% or customized



2D 50x60 LYSO(Ce) Array



Shalom EO
Crystals, optics and components

Hangzhou Shalom Electro-optics Technology Co., Ltd.
