

LYSO(Ce) is a new type of scintillation crystal with excellent scintillation properties, like high light output, short decay time, high density and anti-radiation hardness, as well as stable mechanical and physical properties, which has been widely use in the nuclear medicine and high energy physics field.

Basic Information

- Growth technique: Czochralski
- Formula: $\text{Lu}_{1.9}\text{Y}_{0.1}\text{SiO}_5(\text{Ce content: 0.5mol}\%)$
- Dimension(max): $\varnothing 90 \text{ mm} \times 200 \text{ mm}$
- Achieved items: single crystal, linear and 2 dimensional array

General Properties

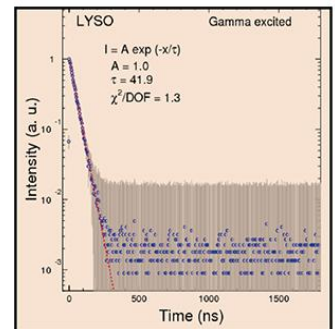
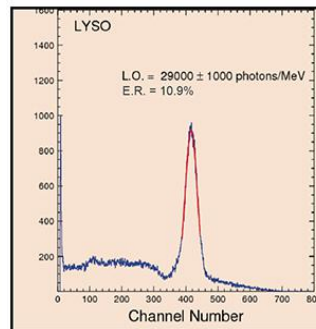
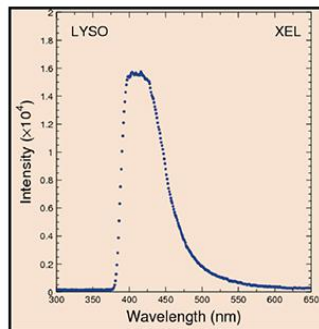
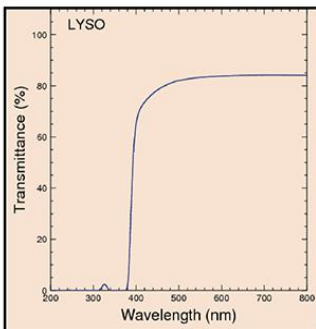
Density(g/cm^3)	7.25
Melting point(K)	2,320
Wavelength of emission peak(nm)	420
Light output(Photons/Mev)	29,000
Decay time(ns)	42
Refractive index	1.82
Hygroscopic	No
Cleavage plane	No
Hardness(Mho)	5.8

Characterization

Dimension of LYSO(ce): 15 x 15 x 15 mm

PMT: R1306; Reflector: Teflon(0.80 mm); Radiation source: Cesium¹³⁷; HV: 650V

Absolute value of light output: 29,000 photons/Mev; Energy resolution: 10.9%; Decay time: 42 ns



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