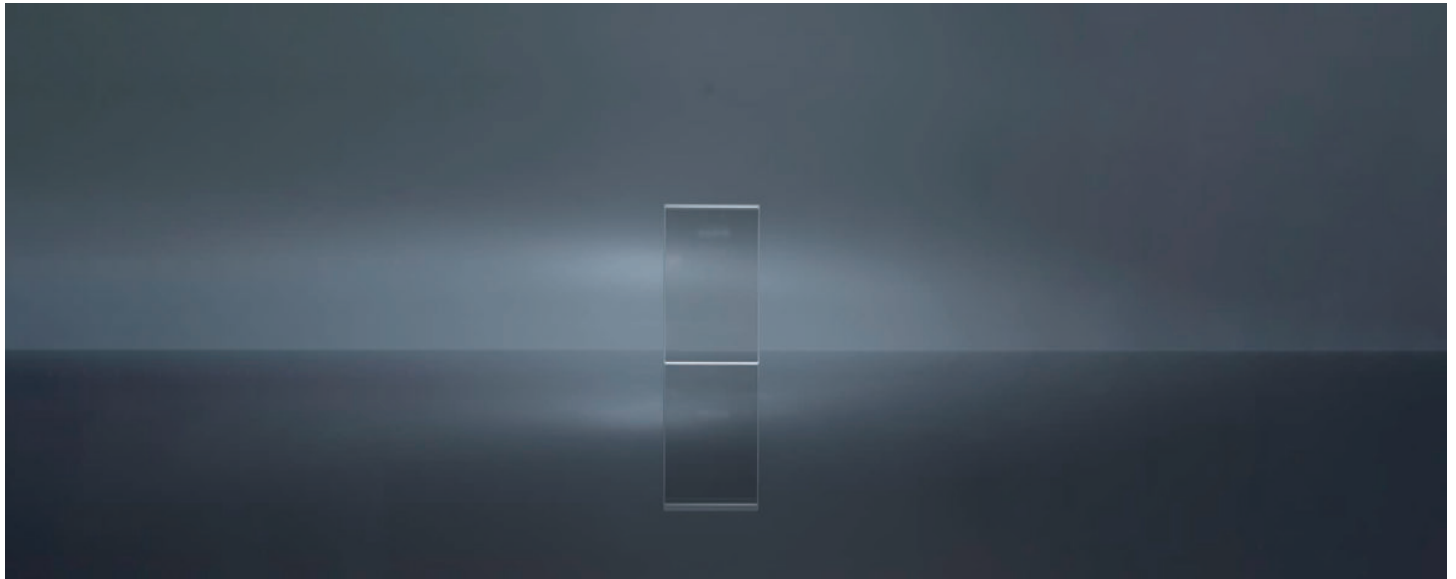


Ce:LaBr₃ scintillator crystals



DESCRIPTION

Ce:LaBr₃ crystal (also known as cerium-doped lanthanum bromide crystal) is one of the new generation of gamma radiation detector materials based on inorganic scintillators. Its emission spectrum is in the range of 360nm-410nm.

The Ce:LaBr₃ crystal shows excellent scintillating performance, such as high energy resolution, high light output (61000ph/MeV), and fast decay time (about 30ns). Which is an ideal substitute for the traditional scintillation crystal NaI. Ce: LaBr₃ crystals are widely used in photomultiplier tubes, scintillating screens and other devices to detect high-energy γ - rays. It has been widely used in nuclear physics, geophysics, petroleum exploration, medical imaging.

FEATURES

- Fast decay time
- High Light output
- High energy resolution
- Good temperature resistance

APPLICATIONS

- γ -ray detection
- X-ray medical imaging
- Nuclear physics
- Nuclear radiation detection
- Geophysics
- Petroleum exploration

PARAMETERS

SCINTILLATOR PROPERTIES

Decay time (ns)	25
Light output (photons/MeV)	63000
Crystal structure	hexagonal
Radiation length	1.881
Attenuation (mm)@511keV	22
Emission peak wavelength (nm)	370
Reflection loss/surface (%)	6.8
Radiation length (cm)	9.95
Energy resolution (%)@662keV	2.9

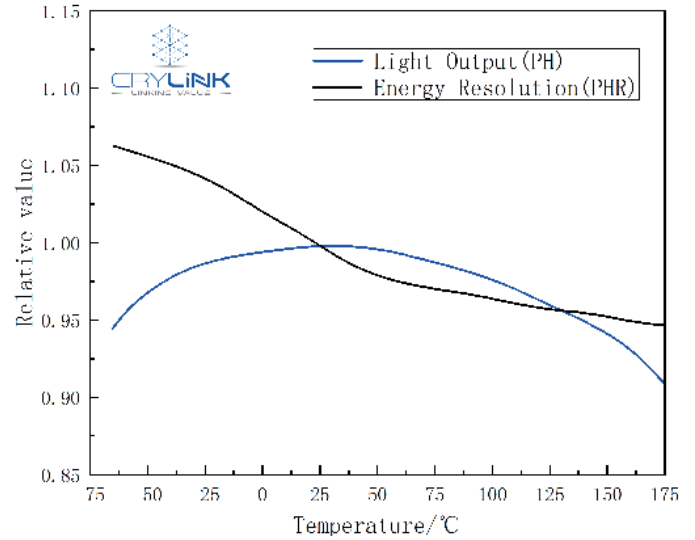


Ce:LaBr₃ scintillator crystals

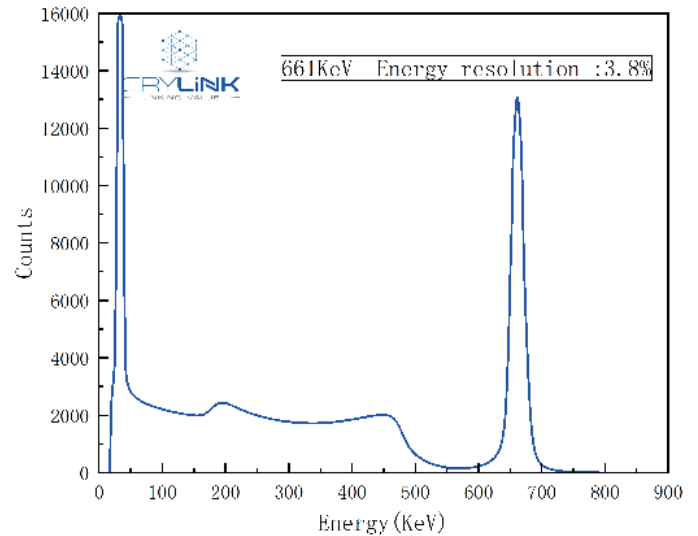
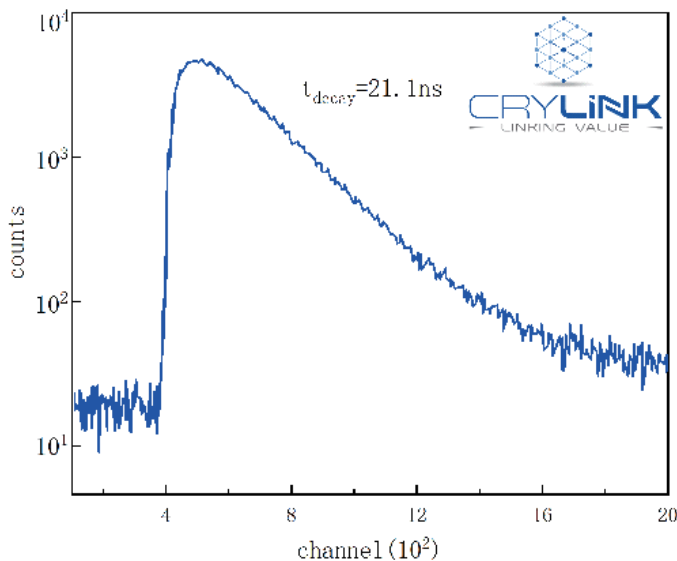
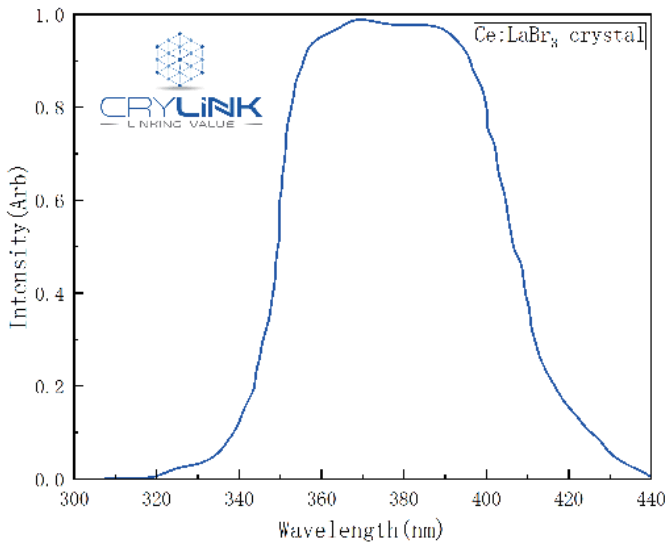
MATERIAL PROPERTIES

Materials	LaBr ₃
Density (g/cm ³)	5.2
Melting point (°C)	783
Hardness (Mohs)	3
Molar mass (g/mol)	378.62
Appearance	white solid, hygroscopic
Solubility in water	Very soluble

SPECTRA



SPECTRA



PMT:R1306; Reflector: Teflon(0.8mm);
 Radiation source: Cs¹³⁷ HV:650V
 Light Output: 63000 ph/MeV; Energy resolution: 3.8%

