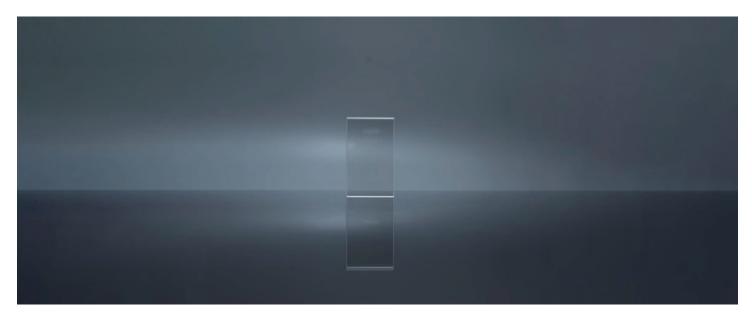


## Ce:LaBr<sub>3</sub> scintillator crystals



#### **DESCRIPTION**

Ce:LaBr<sub>3</sub> 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:LaBr<sub>3</sub> 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 Nal. Ce: LaBr, 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

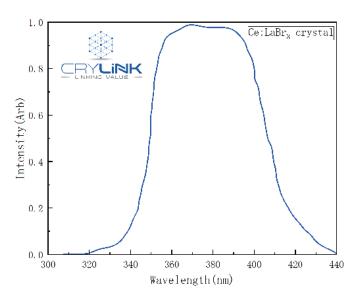


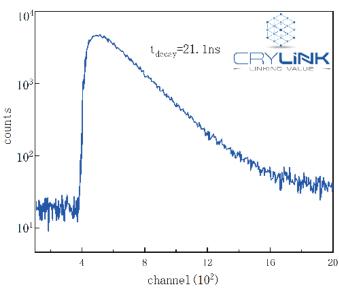
# Ce:LaBr<sub>3</sub> scintillator crystals

#### **MATERIAL PROPERTIES**

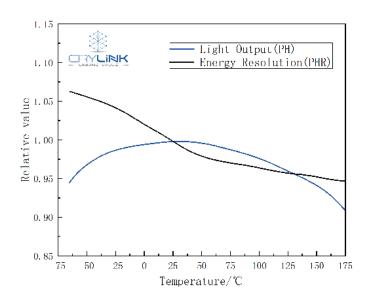
Materials	LaBr <sub>3</sub>
Density (g/cm <sup>3</sup> )	5.2
Melting point (℃)	783
Hardness (Mohs)	3
Molar mass (g/mol)	378.62
Appearance	white solid, hygroscopic
Solubility in water	Very soluble

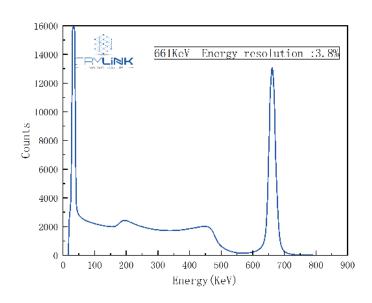
#### **SPECTRA**





#### **SPECTRA**





PMT:R1306; Reflector: Teflon(0.8mm); Radiation source: Cs<sup>137</sup> HV:650V Light Output: 63000 ph/MeV; Energy resolution: 3.8%