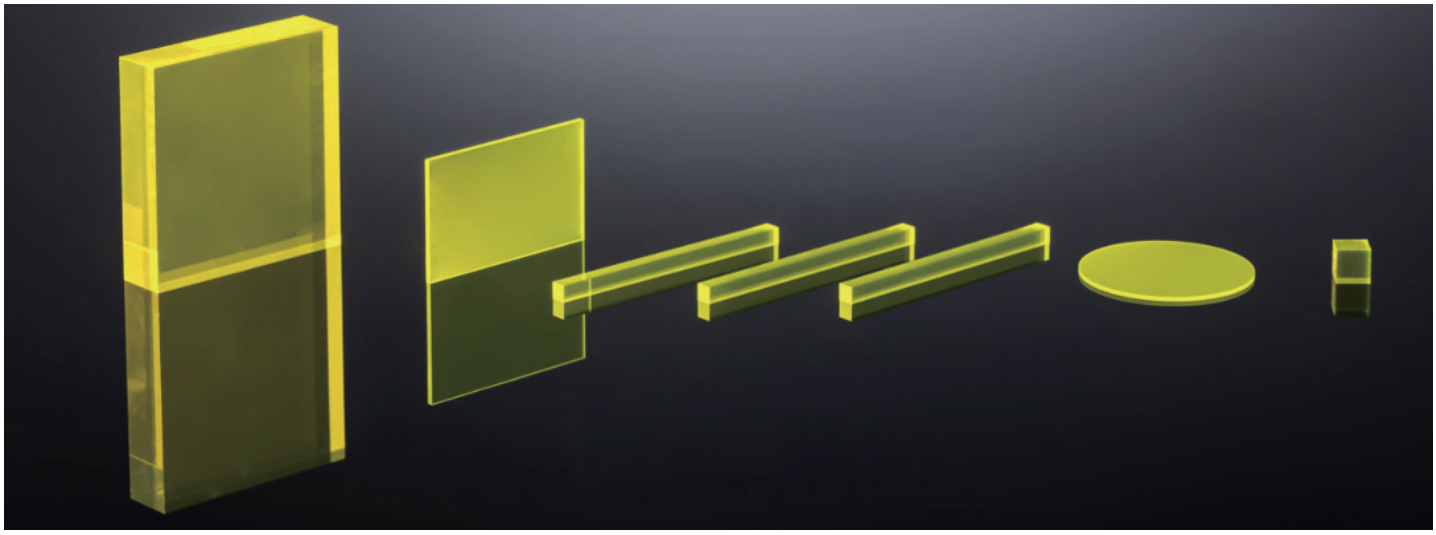
Ce: YAG scintillator crystals



DESCRIPTION

Ce: YAG crystal (chemical formula Ce: $Y_3Al_5O_{12}$, also known as cerium-doped yttrium aluminum garnet crystal) is a scintillation crystal with excellent scintillation performance.
Ce: YAG shows stable physical and chemical properties, high thermal conductivity, and resistance to harsh operating environments. It exhibits excellent scintillating characteristics, such as high scintillating efficiency, high light yield, and fast decay time (about 70ns). Ce: YAG crystals or Ce: YAG ceramics are widely used in photomultiplier tubes, photoelectric counters, scintillation screens and other devices. Which is used to detect high-energy particles, such as α particles, β rays, γ rays, etc.

FEATURES

- High energy resolution
- Chemically inert
- High thermal conductivity
- High mechanical strength
- Fast decay time
- High light output

APPLICATIONS

- Scintillation Screen
- Electron microscopy
- X-ray, β-ray detection
- PEM/SEM
- LED lighting field

PARAMETERS

SCINTILLATOR PROPERTIES

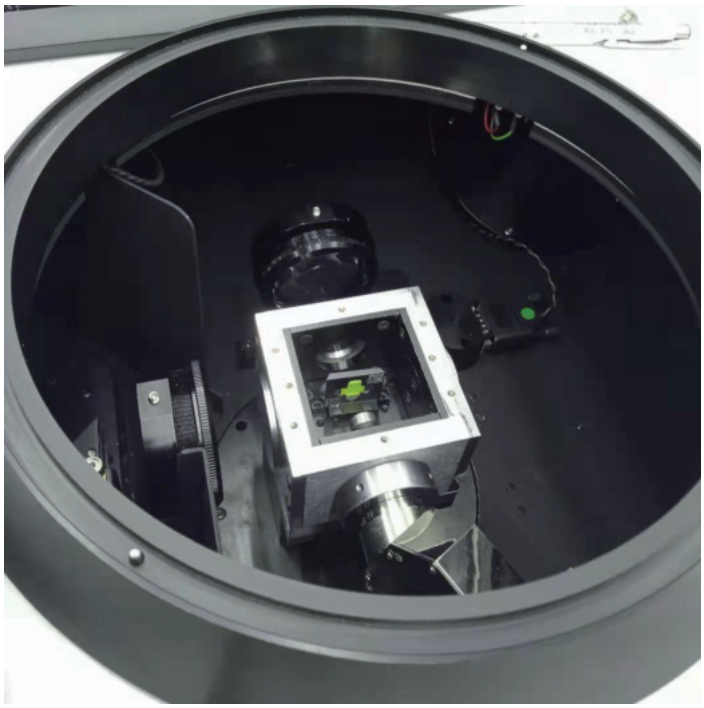
Property	Value
Wavelength(Max. Emission)(nm)	550
Wavelength range(nm)	500-700
Decay time(ns)	70
Light yield(Photons/Mev)	9000-14000
Refractive index(Max. Emission)	1.82
Radiation length(cm)	3.5
Transmittance(%)	TBA
Optical transmittance(um)	TBA
Reflection loss/surface(%)	TBA
Energy resolution(%)	7.5
Photoelectron yield [% of NaI(Tl)](for Y-rays)	35
Neutron capture cross-section(barms)	TBA

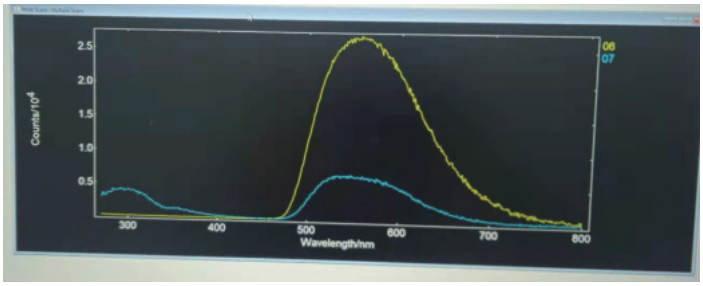
Ce: YAG scintillator crystals

MATERIAL PROPERTIES

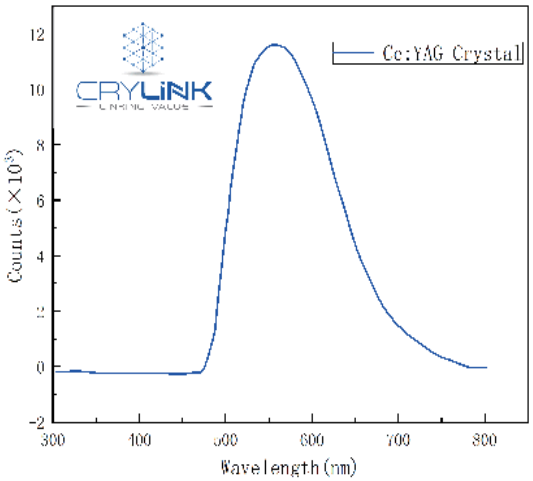
Property	Value
Materials	$Ce:Y_3Al_5O_{12}$
Density（$g.cm^{-3}$）	4.55
Melting Point (℃)	1970
Hardness (Mohs)	8.5
Hygroscopicity	No
Cleavage plane	No
Solubility($g/100g\ H_2O$)	N/A
Thermal expansion(C^{-1})	$8.5*10^{-6}$

MINI-X2 Miniature X-Ray Tube, High Voltages p ower Supply and usb Controller (4w,50KV)(Silver Ag)

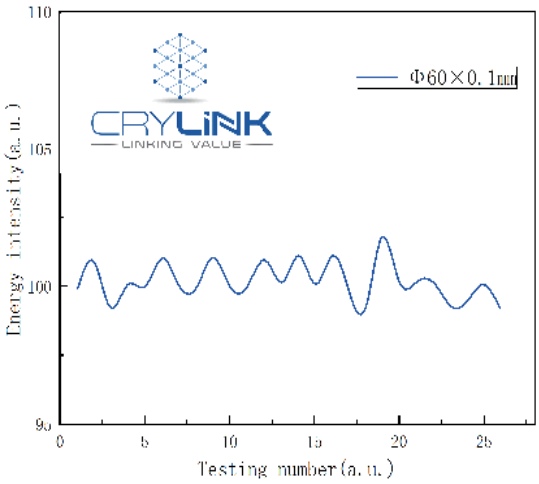




SPECTRA



Dia 44X2 mm　Ce：YAG crystal
Radiation source: X-ray （4W, 50KV）Silver Ag



Dia 60×0.1 mm Ce:YAG crystal Uniformity Character-ization of Light Output The variation range is less than 1%