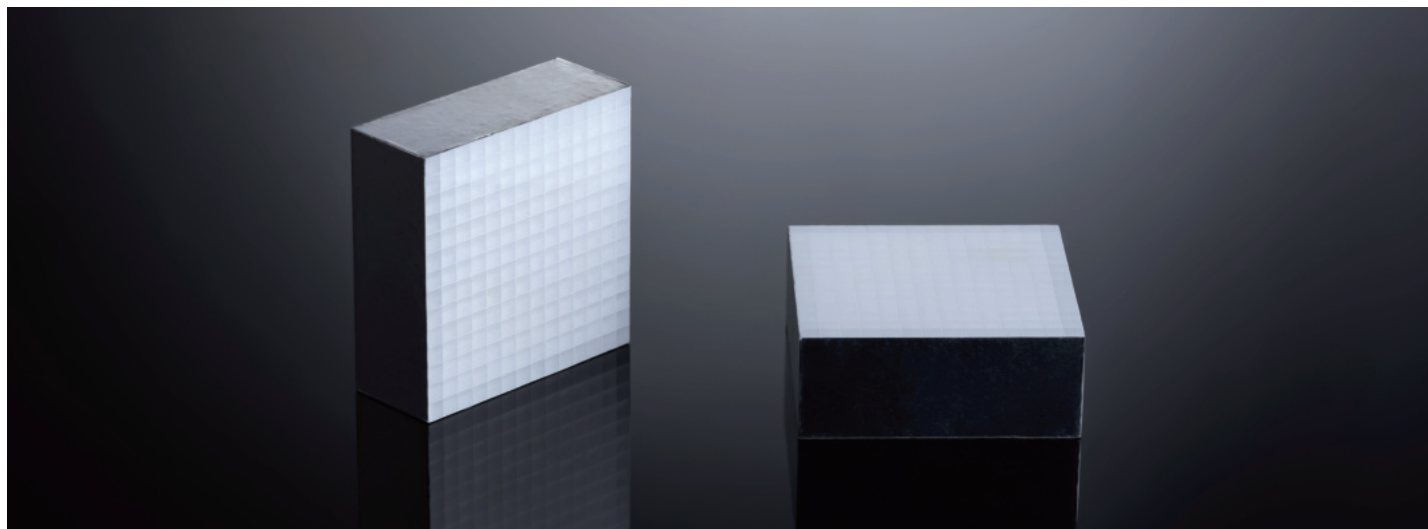


CsI scintillator crystals



DESCRIPTION

Tl:Csl crystal is one of the brightest scintillators as known. With its emission peak is at about 550nm, which suited well for SiPD or SiPM readout. Tl: Csl crystal shows high light output (60000ph/MeV). It has a wide range of applications in security detection, neutrino detection, neutrino detection, gamma rays.

Pure Csl shows crystal a very fast decay rate (~10ns), and the emission peak of its spectrum is around 310nm, but its light output at room temperature is very low. The light output of pure Csl crystal at a low temperature of 77K is as high as 100,000 ph/MeV, which makes pure Csl the most attractive scintillator in the field of cryogenic detectors.

FEATURES

- High light output
- Short decay time
- Low melting point
- Good optical properties
- High photoelectric conversion efficiency

APPLICATIONS

- Detection of neutrinos
- γ -ray detection
- XCT
- PET
- Position sensitive detector
- Geological exploration
- Industrial CT camera

PARAMETERS

MATERIAL PROPERTIES

Materials	CsI	CsI:TI	CsI:Na
Density ($\text{g}\cdot\text{cm}^{-3}$)	4.53	4.51	4.51
Melting Point ($^{\circ}\text{C}$)	894	894	621
Hardness (Mohs)	2	2	2
Hygroscopicity	Slightly	Slightly	Slightly
Cleavage	No	No	No
refractive Index	1.95	1.8	1.8

SCINTILLATOR PROPERTIES

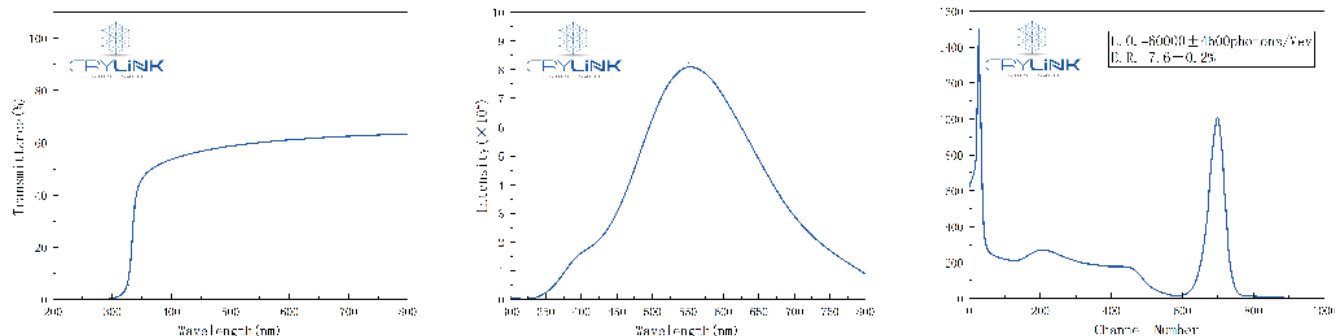
Materials	CsI	CsI:TI	CsI:Na
Radiation length(cm)	1.86	1.86	2.43
Decay constant(ns)	16	900	630
Emission peak(nm)	315	550	550
Light output (Ph/MeV) (300K)	1000	60000	41000
Afterglow(@75ms)	/	0.5-5.0	0.5-5.0



CsI scintillator crystals

SPECTRA

CsI :TI scintillator crystal



PMT:R1306 ; Reflector: Teflon(0.8mm); Radiation source: Cs¹³⁷

HV:650V

Light Output :59000 ph/MeV; Energy resolution :7.3%

CsI scintillator crystal

