

Thallium doped cesium iodide, CsI(Tl), has a light output of 60,000 photons/MeV and is one of the brightest scintillators known. With its emission peak is at 550 nm and well suited for SiPD or SiPM readout, CsI(Tl) has been used widely in security inspection, homeland protection and custom border protection.

Basic Information

- Growth technique: bridgman
- Dimension(max): Ø120 mm x 400 mm
- Achieved items: single crystals, linear and 2 dimensional array

General Properties

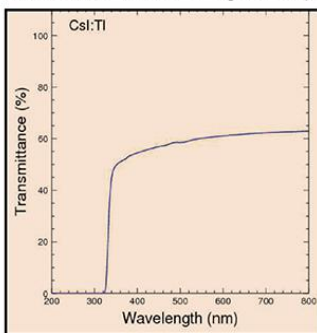
Density(g/cm ³)	4.51
Melting point(K)	894
Wavelength of emission peak(nm)	550
Light output(Photons/MeV)	60,000
Decay time(ns)	1,020
Cleavage plane	No
Hygroscopic	Slightly
Refractive index	1.79
Hardness(Mho)	2

Characterization

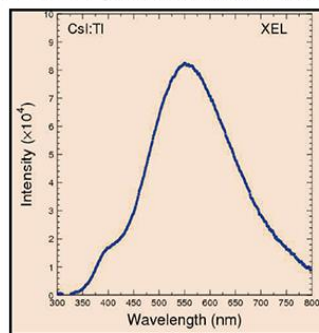
Dimension of CsI(Tl): 28 x 28 x 28 mm

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

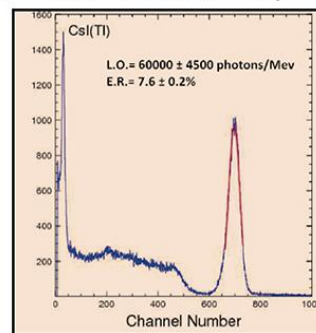
Absolute value of light output: 60,000 photons/MeV; Energy resolution: 7.6%; Decay time: 1,020 ns



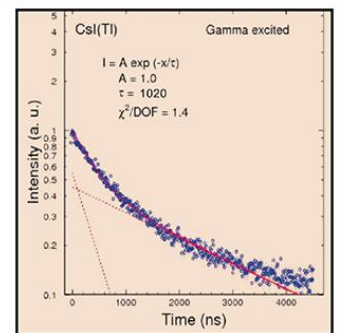
Transmittance curve



X-Ray excited Luminescence curve



Light output curve & Energy resolution curve



Scintillation decay curve by gamma ray

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