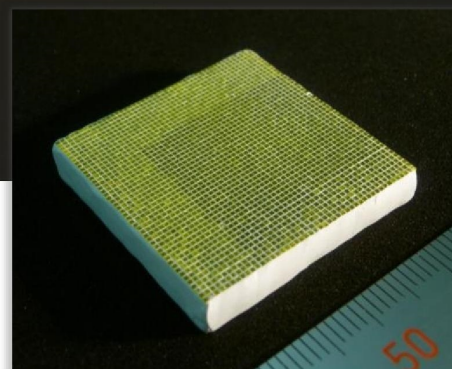
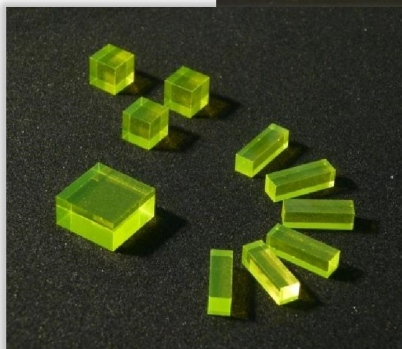


Ce:GAGG Scintillator Crystal



Physical and Scintillation Properties

Scintillators	Ce:Gd ₃ (Ga,Al) ₅ O ₁₂ (Ce:GAGG)	Ce:Lu _{1.8} Y _{0.2} SiO ₅ (Ce:LYSO)	Bi ₄ Ge ₃ O ₁₂ (BGO)	Ce:LaBr ₃
Density (g/cm ³)	6.63	7.1	7.13	5.08
Light yield (photon/MeV)	48,000	34,000	8,000	75,000
Decay time (ns)	88 (60%) 228 (40%)	40	300	30
Peak emission (nm)	520	420	480	375
Energy resolution (%@662keV)	5.4 (5x5x5mm ³ with APD)	10	12	2.6
Hygroscopicity	No	No	No	Yes
Cleavage	No	No	No	No
Melting point (°C)	1,850	2,150	1,050	783

miraiimaging

Contact: info@mirai-imaging.com

URL: <http://www.mirai-imaging.com>

Ce:GAGG Scintillator Crystal

Features

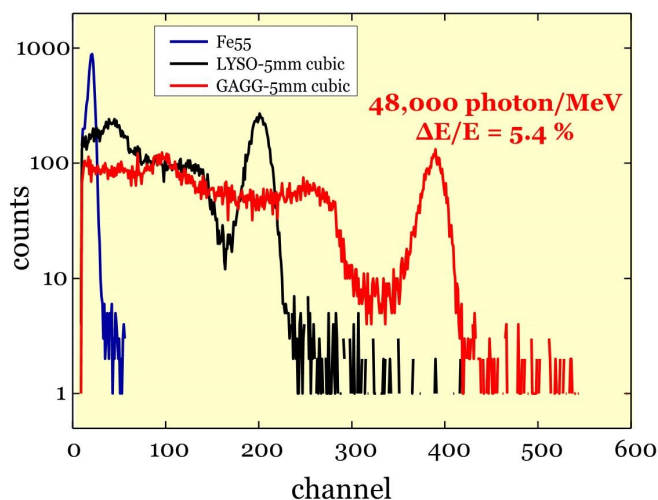
- Light yield: 48,000 photon/MeV
- Energy resolution: 5.4 %
- Non intrinsic radioactivity

Specification

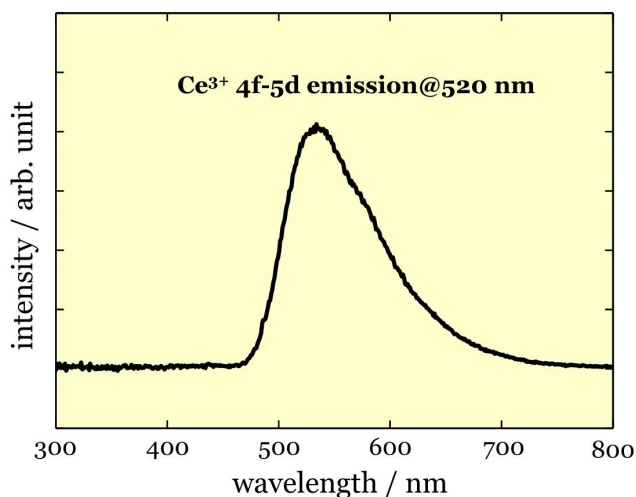
- Diameter : $\phi 55\text{ mm}$
- Length : <math>< 150\text{ mm}</math>

Application

- PET, PEM
- SPECT
- CT



Energy spectra of Ce:GAGG using APD excited by ^{137}Cs



Radioluminescence spectrum of Ce:GAGG excited by $\text{Cu K}\alpha$ X-ray.

Physical Properties of GAGG

Chemical formula	$\text{Gd}_3(\text{Ga,Al})_5\text{O}_{12}$
Structure / Space group	Cubic / $\text{Ia}\bar{3}\text{d}$
Density	6.63 g/cm ³
Z_{eff}	53.4
Radiation length, X_0	1.59 cm
Refractive index	1.93 @520 nm