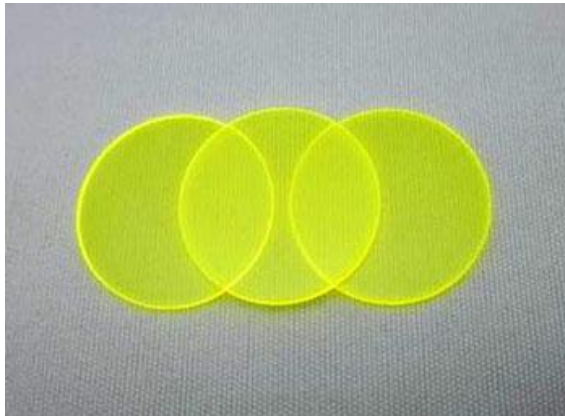




## LuAG(Ce) Crystals

Cerium doped Lutetium Aluminum Garnet (Or Ce:LuAG chemical formula  $\text{Lu}_3\text{Al}_5\text{O}_{12}$ ) is a relatively dense and fast scintillation material. Its density of 6.73 g/cm<sup>3</sup> is about 94% of the density of BGO (7.13 g/cm<sup>3</sup>). Its decay time is much faster (70 ns) than that of BGO (300 ns). This is of advantage in time dependent and coincidence measurements. The wavelength of scintillation emission is about 535 nm, which is ideal for photodiode and avalanche diode readout. The material can also be used for imaging screens, similarly to Ce:YAG. A particular advantage of Ce:LuAG is its higher density resulting in thinner screens with higher spatial resolution. The material is mechanically and chemically stable, and can be machined into a variety of shapes and sizes including prisms, spheres and very thin plates.

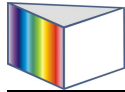


### Features and Abilities:

- High density
- Fast decay time
- Wavelength of luminescence emission well suitable for Photodiode and Avalanche Diode readout
- Chemical and mechanical resistance
- Temperature resistant

### Main Applications:

- PET scanners
- High energy gamma and charged particle detection
- High spatial resolution imaging screens for gamma, X, beta and UV rays



Basic Properties:

<b>Basic Properties</b>	
Crystals Structure	Cubic
Hygroscopic	None
Cleavage Plane	None
Density(g/cm <sup>3</sup> )	6.75
Hardness (Mohs)	8.5
Refractive Index at Peak Emission	1.84
Emission Peak (nm)	535
Decay Time (ns)	70
Light Output (%NaI(Tl))	20
Photon Yield @300K (photons/KeV)	20