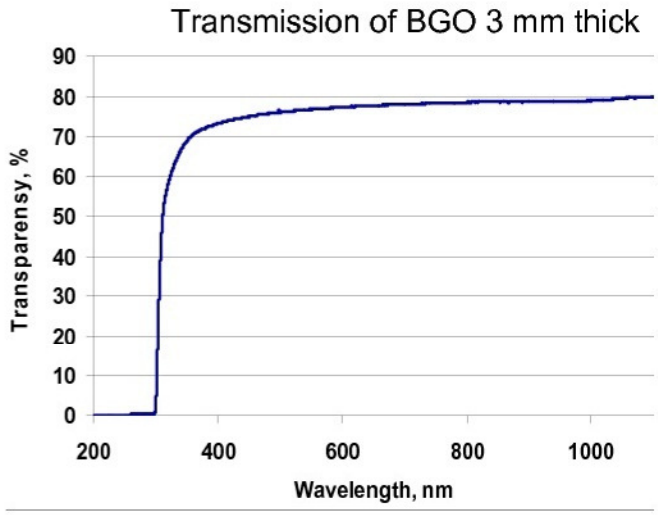
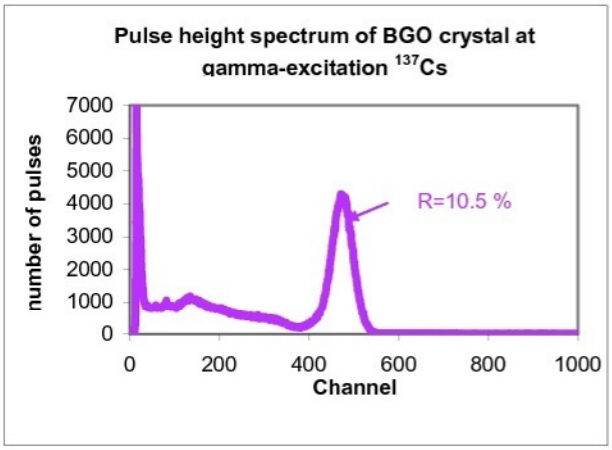
Bismuth germanate $Bi_4Ge_3O_{12}$ (BGO)





Scintillation and physical properties

Effective atomic number	74
Density, g/cm3	7.13
Melting point, K	1323
Radiation length, cm	1.12
Refractive index	2.15
Luminescence peak, nm	480
Hygroscopicity	no
Decay time, ns	300
Light yield, ph/MeV	8000-10000
Light yield, % (NaI:Tl)	15-20
Energy resolution (662 keV), %	10.0-11.5
Afterglow, % (after 3 ms)	0,005
Radiation hardness, rad	10^5-10^6

High stopping power, high scintillation efficiency, good energy resolution, non-hygroscopicity and low cost made BGO the material of choice for high energy physics, nuclear physics, space physics, nuclear medicine, geological prospecting and other industries.