

GPS

Key Scintillator Materials for Novel Radiation Detectors

Features

- ✓ Highest light yield in oxide scintillators
- ✓ Excellent temperature characteristics (up to 300 °C)
- ✓ No hygroscopicity
- ✓ No self-radiation

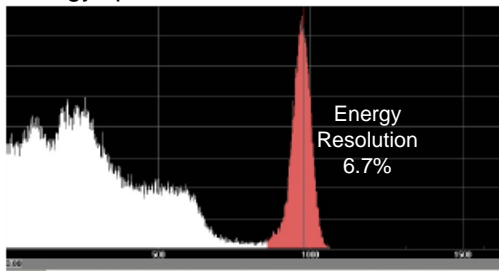


Applications

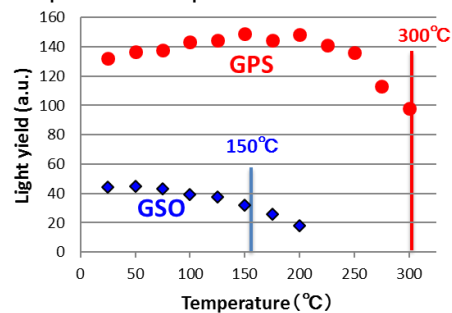
- ✓ SPECT
- ✓ Homeland security
- ✓ Common radiation monitoring

Property

Energy spectrum



Temperature response



Comparison of Typical Scintillators

	GPS	GSO	La-GPS	LaBr ₃	NaI:Tl
Light yield (NaI=100)	~140	20	~120	160	100
Decay time (ns)	50-130	30-60	50-70	25-30	230
DE/E (¹³⁷ Cs, %)	5 - 7	8-10	5 - 7	3-4	7
Density (g/cm ³)	5.5	6.7	~5.3	5.08	3.7
Hygroscopicity	No	No	No	Yes	Yes
Self-radiation	No	No	Little	Yes	No
Temperature quench	300°C	150°C	>150°C	-	-

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