

# GPS

## Key Scintillator Materials for Novel Radiation Detectors

### Features

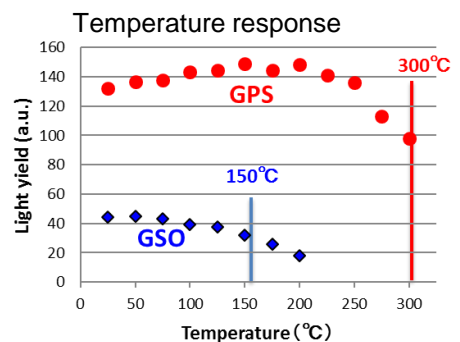
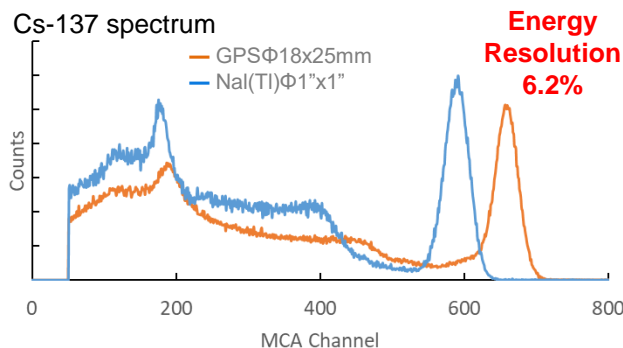
- ✓ Highest light yield in oxide scintillators
- ✓ Superior energy resolution
- ✓ Excellent performance at high temperature ( up to 300 °C)
- ✓ No self-radiation
- ✓ No hygroscopicity

### Applications

- ✓ SPECT
- ✓ Homeland security
- ✓ Common radiation monitoring
- ✓ Oil Well logging



### Performance example



### Comparison of Typical Scintillators

	GPS	GSO	La-GPS	LaBr <sub>3</sub>	NaI:TI
Light yield (NaI=100)	~140	20	~120	160	100
Decay time (ns)	50~130	30~60	50~70	25~30	230
Energy resolution ( <sup>137</sup> Cs, %)	5~7	8~10	5~7	3~4	~7
Density (g/cm <sup>3</sup> )	5.5	6.7	~5.3	5.08	3.7
Hygroscopicity	No	No	No	Yes	Yes
Self-radiation	No	No	Little	Yes	No

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