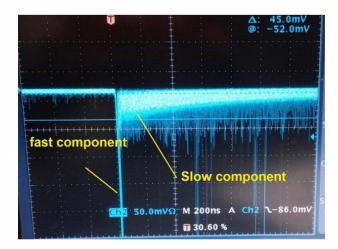


Barium Fluoride Scintillators

Description: Barium Fluoride (BaF₂) scintillation crystals are characterised by a very fast scintillation emission, with a decay time of 800 ps at 220 nm. BaF₂ detectors are used for fast timing measurements (e.g. positron life time studies) where sub nanosecond time resolution is mandatory. Typical time resolutions are 150 ps at 1 MeV per detector. For readout of the fast component, quartz window PMTs are required.

Scintillation crystal	:	BaF ₂
Density	:	4.88 g/cm ³
Emission maximum		220 nm (fast component) 310 nm (slow component)
Refractive index	•	1.54 (220 nm) 1.50 (310 nm)
Conversation efficiency (relative to NaI(TI))	:	5% (fast) 16% (slow)
Diameter	:	Up to 150 mm
Pulse shape discrimination	:	Well possible to discriminate neutrons from



gammas