

SCINTILLATION PROBES

闪烁探测器
GAMMA Na(Tl)
伽马 Na(Tl)

Scintillation Probes (Gamma and X-Rays):

闪烁探测器 (γ 和 X 射线)

PGS-3 Gamma Scintillation Probe utilizing a highly gamma sensitive crystal (NaI(Tl)). 1" diameter x 1" long hermetically sealed crystal optically coupled to photomultiplier tube. Gamma sensitivity is 100 times greater than GM tubes Will also detect X-rays $> 25\text{KeV}$.(Figure1)

PGS-3 伽马 闪烁探测器使用高 γ 敏感晶体 (NaI(Tl)),直径 1" x 1"长, 完全密封晶体通过光学方法耦合到光电倍增管。 γ 敏感度是 GM 管的 100 倍。也检测 X-rays $> 25\text{KeV}$ (图一)

PGS-3L Same as the PGS-3 except it has a 2" x 2" crystal. Eight times the sensitivity of the PGS-3. Since sensitivity of the PGS-3L is in the order of 1,000,000 cpm per mR/hr, probe should only be used with instruments allowing high count rates, or having background suppress circuits (PUG-7E) or pulse height selection circuit (PRS-5 or FS-5T).(Figure1)

PGS-3L 除了有 2" x 2"晶体外, 和 PGS-3 相似, 灵敏度是其八倍。因为 PGS-3L 敏感度大约每毫伦/小时 1,000,000 cpm 计数率, 所以探测器只能和允许高计数率, 或带本底抑制电路(PUG-7E), 或脉冲高度选择电路(PRS-5 or FS-5T)的仪器使用。(图一)



Figure 1

PGS-3T Low Energy Gamma Scintillation Probe, 1" diameter x 1mm NaI(Tl) crystal protected by a 5 mil. aluminum window, sees X-rays and Gammas $> 10\text{KeV}$ and Betas $> 100\text{KeV}$.

PGS-3T 低能 γ 闪烁探测器, 直径 1" x 1mm NaI(Tl)晶体, 由一个 5 毫英寸的铝窗保护。可见大于 10KeV 的 X 射线和 γ , 大于 100KeV 的 β 。

PGS-22 Low Energy Gamma Scintillation Probe with built in linear and discriminator maximizes sensitivity to low energy gamma radiation and allows use with gamma spectrometers. Thin crystal (2"diameter x2mm thick) decreases sensitivity to background. The internal linear preamp is powered by a long life battery (6 months of normal operation) and may be used with portable instruments, such as the PUG-7 and with line operated instruments not furnishing power for preamp. Sees X-rays and Gamma $>10\text{KeV}$.

PGS-22 低能 γ 闪烁探测器, 带内置线性, 鉴别器对低能 γ 辐射实现敏感度最大化, 允许使用 γ 能谱仪。薄晶体 (直径 2" x2mm 厚) 减少了对本底的灵敏度。内置线性前置放大器由长寿电池供电 (正常操作 6 个月), 可用于便携仪器, 如 PUG-7, 也可以用于电线供电仪器, 无前置放大器电源。可见 X 射线和大于 10KeV 的伽马。



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SCINTILLATION PROBES

闪烁探测器

GAMMA Na(Tl)

伽马 Na(Tl)

PGS-3I This Low Energy Gamma Probe incorporates a 37mm x 2mm NaI(Tl) crystal and thin (5mil) window for use with T/A's iodine localizer and monitor as well as other systems requiring sensitivity to low energy photons, such as those from I-125 as well as sensitivity to high energy photons, such as I-131 and other isotopes. It is designed to accept shields and collimators and to couple to charcoal impregnated cartridges or filters for determining total radioiodine content of air, both gaseous and particulate. Sees X-rays and Gamma >10KeV.(Figure 2)

此低能伽马探头带一个 37mm x 2mm NaI(Tl)晶体和薄窗（5mil），和 T/A 的碘定位器，显示器，及其它要求对低能量光子灵敏的系统连用，如 I-125，也适用于对高能光子灵敏度有要求系统，如 I-131 及其它同位素。设计允许带屏蔽和准直仪，并可以耦合到炭浸盒或过滤器以确定空气中的气态或颗粒形式存在的碘总辐射，可见大于 10KeV 的 X 射线和伽马。（图二）

PGS-3x3 Sensitive Large Crystal Gamma Scintillation Probe. Over 21 cubic inches of NaI(Tl) makes this probe very useful for truck, vehicle, exit, and remote monitoring. Rapidly detects minute changes in very low ambient radiation fields. Includes 3" x 3" diameter NaI(Tl) crystal and optically coupled photomultiplier tube. The highly efficient crystal with large active volume provides background rate of approximately 60,000 cpm. Therefore, probe should be used only with instruments allowing high count rates, or having background suppress circuit (as PUG-7E) or pulse height selection circuit, such as the PRS-5 and the FS-5t.

PGS-3x3 灵敏大晶体伽马闪烁探测器，超过 21 立方英寸 NaI(Tl)使得这款探测器特别适合检测运输车辆，出口和遥控监控。快速检测低辐射环境场分钟变化。仪器配备直径 3" x 3" NaI(Tl)晶体和光学耦合的光电倍增管。大活动容量的高效晶体提供本底计数率接近 60,000cpm。因此，探测器应该只用于允许高计数率，或带本底抑制电路（如 PUG-7E），或脉冲高度选择电路（如 PRS-5 和 FS-5t）的仪器



Figure 2



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Scintillation Probes (Gamma and X-Rays):

闪烁探测器 (γ 和 X 射线)

PGS-32T Low Energy Gamma Scintillation Probe. The thin crystal (55mm diameter by 2 mm thick) decreases sensitivity to background while maximizing response to X-rays and low energy photons $\geq 15\text{KeV}$ being examined. This probe may be used with portable instruments such as the T/A PUG-7 and PRS5 and with line operated instruments as well as with all other systems designed for Geiger and scintillation counting. Sees X-rays and Gamma $\geq 15\text{ KeV}$.(Figure1)

PGS-32T 低能伽马闪烁探测器。薄晶体 (直径 55 mm x 2 mm 厚度) 降低了对本底的敏感度, 同时却最大限度对 X-rays 和检测到的 $\geq 15\text{KeV}$ 低能光子做出响应。

此款探测器可以和便携仪器连用, 如 T/A 公司的 PUG-7 和 PRS5, 也可和电线供电仪器, 及所有的设计为 Geiger 和闪烁计数器的系统连用。见 $\geq 15\text{ KeV}$ 的 γ 和 X 射线 (图一)

PGS-3IBe Very Low Energy Gamma and X-Ray Probe. 1.5" diameter x 1mm thick NaI(Tl) probe. Sees X-rays and Gammas $> 6\text{KeV}$.

PGS-3IBe 非常低能 γ 和 X-Ray 探测器。直径 1.5" x 1mm 厚度 NaI(Tl)探测器, 见 $>6\text{ KeV}$ 的 γ 和 X 射线

PGS-3TBe Very Low Energy Gamma and X-Ray Probe. 1" diameter x 1mm thick NaI(Tl) probe. Sees X-rays and Gammas $> 6\text{KeV}$.

PGS-3TBe 非常低能 γ 和 X-Ray 探测器, 直径 1" x 1mm 厚度 NaI(Tl)探头, 见 $>6\text{ KeV}$ 的 γ 和 X 射线



Figure 1

PGS-3LS LED Stabilized for pulse height. 2" diameter x 2mm NaI(Tl) probe.

PGS-3LS LED 稳定脉冲高度。直径 2" x 2mm 厚度 NaI(Tl)探测器

PGS-3LW Low Energy Gamma Scintillation Probe with a well. It yields high count efficiency for liquid and solid samples. The well is 1.5" deep by 21/32" in diameter, accepts vials and test tubes and is set within the probe's NaI(Tl) crystal, which has 2" diameter x 2" thick. The well is lined with 0.01" aluminum. Used with model SSS-11.

PGS-3LW 低能伽马闪烁井探测器, 允许液体和固体样品的高计数率。井深 1.5", 直径 21/32", 接受小瓶和试管, 放置在探测器的直径为 2", 厚度为 2"的 NaI(Tl) 晶体内。该井内衬 0.01"铝, 和 SSS-11 连用。



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PGS-8M Plutonium Spot Detector A 1/4" diameter x 2mm thick NaI(Tl) scintillation crystal is coupled to a PM tube with spectrally matched light pipe. The crystal, light pipe, and a collimator are contained within the 3/4" diameter x nominal 1.5" long detector assembly. The detector is mounted at the end of a 2" diameter by 10" long handle which contains PM tube, dynode string and pre-amplifier.(Figure 2)

PGS-8M 钚点式探测器，一个直径 1/4"，厚度 2mm NaI(Tl)闪烁晶体耦合到一个带频谱匹配光管的 PM 管上。晶体、光管、和准直仪都包含在直径 3/4"，正常长度 1.5"的探测器组件中。探测器安装在直径 2"，长 10"长柄末端，包含 PM 管，倍增电极线和前置放大器



Figure 2



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