



- Unique portable neutron spectrometer
- Acquires accurate neutron spectra in minutes
- Spectroscopy from thermal to 20 MeV
- Spectroscopy/Dosimetry modes
- Gamma rejection ratio of ~ 1000:1
- Kerma (K), Dose equivalent (D, NCRP 38), Ambient dose equivalent [H*(10)]
- Dose rate range: < 1 to 200 μSv/hr (< 0.1 to 20 mrem/hr)
- Automatic calibration
- Compatible with current MICROSPEC analyzers

Bubble Technology Industries' N-PROBE™ is a revolutionary portable neutron scintillation spectrometer, designed to be used by non-specialists for measurement of low-intensity neutron doses in the mixed field environments often found in nuclear utilities, fuel storage areas, fuel and waste processing operations and military applications. It is compatible with the current generation of BTI MICROSPEC analyzers and shares the philosophy of spectral dosimetry with other BTI spectroscopic probes, where the dosimetric quantities are computed from the spectrum using appropriate fluence-dose conversion functions.

The N-PROBE uses two separate detectors to cover the neutron energy range from thermal to 20 MeV. A liquid scintillator is used to cover from 800 keV to 20 MeV while a ³He proportional counter based on the ³He (n,p) T reaction is used to cover the energy region from thermal to 800 keV. Sophisticated pulse-shape discrimination circuitry distinguishes unwanted gamma-ray signals from the desired neutron signals. The two detectors work in unison and pulse-height distributions from both are shown during data collection. With one command from the keyboard, these distributions are merged and processed automatically to yield the desired neutron spectrum and the neutron dose.

Technical Specifications

DETECTOR TYPE: Liquid scintillator and ³He counter
SIZE (without handle): 30.0 x 18.0 x 17.5 cm (11.8 x 7.1 x 6.9 in.)
BATTERY: NiMH (runtime > 12 hrs)
DOSE RATE RANGE: < 1 to 200 μSv/hr (< 0.1 to 20 mrem/hr)
DOSE CONVENTIONS: Kerma, Dose equivalent (NCRP-38), Ambient dose equivalent [H*(10), ICRP-74]

SPECTRAL RANGE: Thermal to 20 MeV
WEIGHT: 4.1 kg (9.0 lbs)
GAMMA REJECTION: Approximately 1000:1 @ 20 °C
TEMPERATURE (OPERATING/STORAGE): 5 °C to +40 °C

*Photon and beta probes also available

