

- Unique portable beta spectrometer
- Compatible with all MICROSPEC analyzers
- Spectroscopy/Dosimetry modes
- $\beta$  Spectroscopy from 100 keV to > 3 MeV
- Gamma rejection ratio of > 50:1
- Accurate measurement of beta dose, Hs(0.07)
- Automatic calibration
- On-board library of  $\beta$  end-point energies

Bubble Technology Industries' MICROSPEC systems were the first truly portable spectroscopic instruments providing the two essential pieces of information required by health physicists - dose rate and radionuclide identification. In addition to an extensive line of photon probes, BTI offers the only commercially available portable beta spectrometer, the B-PROBE™.

Skin dose measurements using traditional thin-window GM counters have been extremely difficult for three reasons: GM counters do not provide any spectral information; the detector efficiency depends on beta energy; and GM detectors do not differentiate against low-energy photons. The BTI B-PROBE solves all these deficiencies using a unique phoswich scintillator. The radiation doses displayed using the B-PROBE are calculated directly from the measured spectral information.

As shown in the three figures below, the spectra measured by the B-PROBE agree very accurately with calculated beta spectra and doses agree within five percent. Since beta particles with energies less than a few hundred keV are not a significant concern in health physics, the B-PROBE operates from approximately 100 keV to 3 MeV. Truly accurate values of Hs (0.07) and radionuclide identification are quickly determined with this easy-to-use portable instrument.

### Technical Specifications

**DETECTOR TYPE:** Phoswich scintillator

**SIZE (without handle):** 26.0 x 16.0 x 14.5 cm (10.2 x 6.3 x 5.7 in.)

**GAMMA REJECTION:** Greater than 50:1

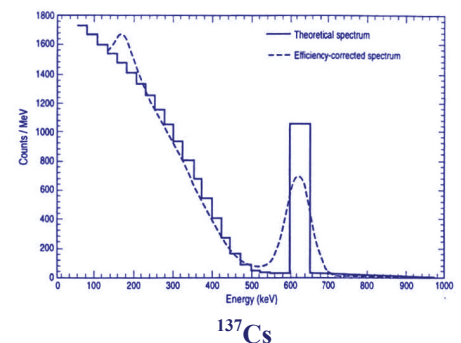
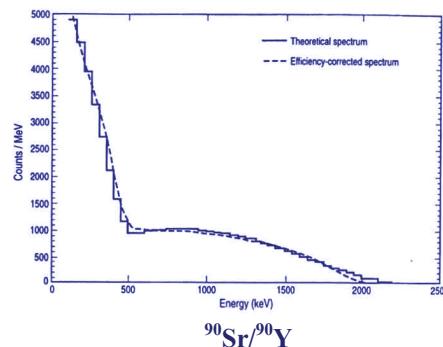
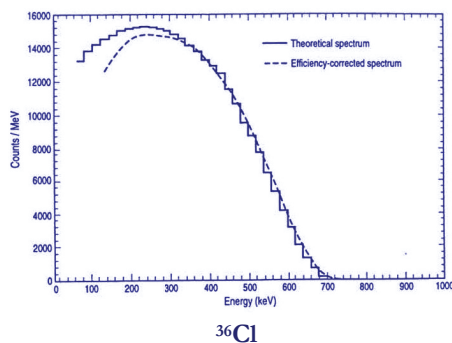
**DOSE CONVENTIONS:** Hs (0.07), H<sub>max</sub>

**SPECTRAL RANGE:** 100 keV to 3 MeV

**WEIGHT:** 3.4 kg (7.5 lbs)

**DOSE RATE (Max.):** ~ 15 mSv/hr (1.5 rem/hr)

\*Photon and neutron probes also available



Courtesy of Health Physics Measurement Group, LANL

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