The New Germanium Detector (HPGe) Based Portable Radiation Spectrometer "HAWK" from NATS Inc Challenges the Existing Status Quo Products in Field Gamma Spectroscopy

The new "HAWK" from NATS Incorporated is the answer to an affordable, light weight high resolution germanium detector (HPGe) based portable spectrometer offering the best price to performance ratio in this class of products. The HAWK addresses the limitations of weight, failure prone complex parts, and high cost of existing products dominating the market.

Middletown, Connecticut (PRWEB) September 30, 2013 -- The new germanium detector (HPGe) technology based portable gamma spectrometer introduced by radiation detection instruments company NATS Incorporated fills a void in the market.

Till now commercially available high resolution field Gamma Spectrometers were either too heavy for field use or are priced beyond the budgets of most users interested in such a device. Or the real world use of these expensive tools were obscured by redundant or superficial features that adds at most, only symbolic value in real world situations.

Recent developments in electrically cooled systems, while improving aesthetics, do not effectively solve the needs of typical End-Users who require a reliable device at an affordable price, and without the technical hurdles of complex systems.

There are several other critical limitations in newer field gamma spectroscopy systems in the market - cost, weight, and the higher chance of failed cooling systems.

In addition, the low efficiency/sensitivity to neutrons overrides the advertised benefits of “dual detection” systems now offered. In esoteric applications where detection of gamma radiation along with neutrons is a requirement, the neutron sensitivity of the a small internal neutron detector is far small for practical use. The detection sensitivity to neutrons in such systems are poor and require a secondary hand held device. A traditional Neutron Survey instruments is low cost, reliable, and provides a viable solution in such applications where neutron detection is a requirement.

A closer look at some newer portable HPGe detection systems reveal other concerns. Restrictions in operating time mandates frequent swapping of rechargeable batteries. The recharging process takes hours, nullifying the advantages perceived in electrical cooling. In addition, electrically cooled systems require several hours of cooling before initial use. This start up wait-time can also be problematic, requiring responders to keep the units cooled at all times.

As such the cost of such devices are driven up with mechanical cooling and neutron detection. However, most applications do not need these features.

To meet the market need for a low cost, reliable solution to field HPGe detection, NATS has introduced the HAWK. The Hawk is the world’s smallest high resolution gamma spectrometer based on germanium (HPGE) detectors. The hawk is an ultra light, portable device, with a footprint much like a camping flashlight. The Hawk also provides a complete range of functions and features which are typically found in laboratory grade
High Purity Germanium detector based gamma spectroscopy systems.

The Hawk includes a digital 16K MCA with full electronics, a data acquisition system and analysis software. The battery powered unit uses a low power draw because it is not powering the mechanical cooler. The Hawk weighs about the same as a gallon of water and uses a small liquid nitrogen reservoir which guarantees a minimum of 20 hours of use without needing to recharge or hot swap batteries on the crystal cooling system.

The Hawk comes with an LCD touch screen to easily operate and change the device settings. It also provides the ability to use the EFFCAL software to conduct mathematical estimations of various complex field geometries using the Monte Carlo Neutron Transport Code (MCNP) based efficiency modeling.

If you are considering options for HPGe, consider a common sense field unit that is affordable, ultra light, and operates without the problems inherent in some of the expensive devices. We find it addresses the needs in 90% of our customers applications.

NATS is currently offering instruments and systems used in all aspects of nuclear radiation detection and analysis. These areas include nuclear spectroscopy, radiation dosimetry, health physics, environmental analysis and medical applications.

NATS designs and manufactures certain instruments, provides customized designs for systems, and integrates products and systems using a list of US and European partners specialized in the radiation field. NATS offers systems for users in Nuclear Power Plants, Homeland Security Agencies, Customs and Border Patrol, National Atomic Energy Agencies, Nuclear Regulatory Agencies, Hospitals, and Research Establishments worldwide.

NATS continues its efforts to innovate via partnerships with reputable companies to provide systems offering the best price to performance ratio for its customers worldwide.

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