BALTIC SCIENTIFIC INSTRUMENTS

Bringing Solutions

Mobile Radiation Monitor GammaCART

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DESCRIPTION

Mobile spectrometric system Mobile Radiation Monitor is designed to measure gamma radiation energy distribution, identify gamma emitting radionuclides, as well as calculate specific and surface activity of gamma emitting radionuclides under conditions of their natural occurrence and at nuclear industry premises. In addition, the system can be used for radiation monitoring, e.g., for examination of large areas, searching lost or stolen gamma radiation sources, study of radionuclide precipitation near radiation hazardous sites without preliminary sampling.

COMPLETE SET

- Electric vehicle as a mobile platform
- Gamma radiation spectrometer
- Thermostabilization system (for NaI(Tl) or LaBr3(Ce) detectors),
- Navigation system including an external antenna
- Shockproof toughbook operable in harsh conditions
- Fixation and positioning system for the detection units
- Router with an antenna that connects the analyzer, navigation system, and Toughbook
- Charger for the electric vehicle

OPTIONS

There are various modifications of system Mobile Radiation Monitor:

- Containing spectrometer with one or two NaI(Tl) scintillation detection units
- Containing spectrometer with one or two LaBr3(Ce) scintillation detection units
- Containing spectrometer with one or two HPGe detection units

Parameter	Value
Relative energy resolution for LaBr3(Ce)	3.5%
Registration efficiency for LaBr3(Ce)	at least 0.6%
Energy range	40 keV ÷ 3000 keV
Integral nonlinearity	< ±1.0 %
Energy conversion function (during 24 hours)	< ±1.0 %
Maximum throughput of the spectrometer	at least $5 \cdot 10^4$ cps
Speed range of the electric vehicle fast mode slow mode	 4 km/h – 25 km/h 0.5 km/h - 4 km/h
Operation setting time	<10 minutes
Continuous operation time	at least 8 hours
Completely charged	10 hours
Temperature range	from -10°C to +55°C
The average MTBF	10000 hours

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Gamma-rays