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Development of a Mobile Radiation Detection System

Following the success of AT6101C Backpack-based Radiation Detector ATOMTEX SPE developed a highly sensitive system AT6103 that can be used for locating the sites of nuclear incidents among other applications. The System was supposed to be easily movable. The decision was to use detection devices based on protected cases integrating up to three gamma and/or neutron radiation detection units and a communication device. The maximum number of detection devices in one System is six. Connection between the cases and the tablet PC is realised by wireless technology. It was possible to build the required high response instrument by increasing the number of detection units in the System and applying special data consolidation algorithms. To date the System has been developed and certified. The System is designed for radiation detection on land, cargo or facilities with GPS mapping. The System functions include measurement with GPS mapping, detection, alarm, identification of radionuclides, extended analysis of data by GARM software, and online data transfer by ARMS software. Test operation of the System on board a helicopter and a vehicle were successfully held as part of field tests of CTBTO in radiation contaminated area due to Chernobyl NPP accident (Polesye Radiation Ecological Reserve, Belarus).

Primary author: MIAKOTA, Ivan (ATOMTEX SPE)

Presenter: MIAKOTA, Ivan (ATOMTEX SPE)

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