

Aero-gammaspectrometry as an important tool after a nuclear accident

C. Strobl, I. Krol, M. Thomas, C. Hohmann, C. Brummer
BfS, Germany

Abstract

Gamma-ray spectrometric systems carried by helicopters prove to be indispensable for the surveillance of environmental radioactivity particularly after an accidental release of artificial radionuclides from a nuclear facility. The nuclear accident in Chernobyl has clearly shown that the efforts in performing radioactivity measurements in the environment had to be improved and intensified. As a result a network with more than 2000 measuring stations has been installed in Germany, which continuously measure the gamma dose rate in the environment.

Additionally to these stations four measuring systems equipped with high resolution gammaspectrometry systems are operated in Germany which allows to monitor environmental radioactivity of large areas in a relatively short time period. This offers an important tool especially for nuclear emergency management in case of accidental releases of radioactive material from a nuclear installation. Furthermore these systems can be used to search for lost radioactive sources, monitoring of areas with enhanced levels of natural radionuclides and for On-Site inspection activities in the frame of the CTBTO to clarify if any nuclear underground tests have been performed.

Some examples will be shown to demonstrate the potential of aero gammaspectrometry in the mentioned fields above.