

3.2-O2. Evaluation of Sensitivities and Minimum Detectable Activities for Test Relevant Radionuclides Using Aerial Gamma Surveys

Aerial radiation surveys provide a method for surveying a potential inspection area for the presence of radioactive material from a possible nuclear test. Large areas can be covered relatively quickly with reasonable sensitivity. Understanding of the sensitivity through the evaluation of minimum detectable activities in the presence of real backgrounds and under operational conditions would be an important contribution to the determination of the proper application of this technique. Using actual data from natural backgrounds and defined radioactive sources, as well as simulations, this presentation describes the calculation of sensitivities, and expected minimum detectable activities for test relevant radionuclides for the CTBTO aerial radiation survey system.

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