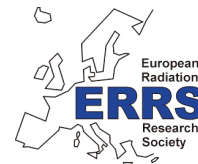




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## ENVIRONMENTAL ANALYSIS OF RADIOLOGICAL AGENT IDENTIFICATION LABORATORY AT BRAZILIAN ARMY TECHNOLOGICAL CENTER

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Radiological analysis at Brazilian Army Technological Center (CTE<sub>x</sub>) has been performed since 1980s, in order to be applied environmental monitoring. Nowadays, analytical techniques such as gamma spectroscopy and total alpha/beta counting are performed by Chemical Biological and Nuclear Defense Division (DDQBN). Its major role is to support CTE<sub>x</sub> in development of searching about homeland security against Chemical, Biological, Radiological and Nuclear (CBRN) threats. As the Radiological Agents Identification Laboratory (LIAR) is being set up at DDQBN, advanced detection devices, including two Hiperpure Germanium (HPGe) spectroscopy systems, became available. The LIAR follows safety requirements enforced by Brazilian Nuclear Energy Commission (CNEN), being responsible for performing environmental radiological monitoring of the CTE<sub>x</sub> area. So far, no presence of radiological contamination has been found. Moreover, if any is identified, decontamination procedures will be immediately deployed. In addition, since CTE<sub>x</sub> is located next to the Guaratiba Archeological and Biological Park, the need for keeping accurate records of the radiological history of the site is even greater. Thus, this work is aimed at describing the environmental radiological measurements performed by LIAR at the analysis about sediment of Guaratiba mangrove swamps by determining U-238, Th-232, K-40 and Cs-137 concentrations. The procedures for collection, preparation, packaging and analysis of samples are also described. Finally, the work considers some future perspectives of using LIAR for performing environmental radiological analysis services, setting up database as well as acquiring further specific training experience so as to engage in more extensive homeland security activities.

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