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The Radiological Field Training Simulator (RaFTS)/Spectroscopic Injection Pulser (SIP) for Radiation Detection Training Without Radiation Sources in On-Site Inspection

LLNL has developed a capability for radiation detection instrument training that enables the use of detection instruments against realistic radiation sources/scenarios of interest to CTBT on site inspection. The sources and scenarios include, for example, short-lived relevant radionuclide radioactivity that is distributed on the surface inside an inspection area or might be contained in sample collected from the same. Our method uses actual operating radiation detection instruments and injects, pulse by pulse, the response into the detectors. Demonstrated on an operational and commercial HPGe detector used for in situ gamma spectroscopy and/or sample measurements in a field laboratory, our approach maintains the full physics fidelity while also maintaining the realities of field operations. The presentation will describe the current capability and results of some recent demonstrations performed at the VIC and also in Washington, DC. This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344 Lawrence Livermore National Security, LLC., LLNL-ABS-716592.

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