

INVITED TALK: Repurposing Existing Portal Monitor Infrastructure

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Content

Radiation Portal Monitors (RPM) have been installed throughout the world to detect the transportation of illicit nuclear material. This network bases its alarm decisions on local radiation environments. Transient radioactivity, such as is present in precipitation events, impacts RPMs' sensitivity to hardwired quantities of threat materials. This challenge can be viewed as a feature in another endeavor: accounting of environmental releases of radioactivity. Existing RPM infrastructure can be used to directly study the time-dependent concentration of certain isotopes in clouds.

About the Presenter

Dr. Livesay received a BS in Physics from the University of Texas at Arlington and a PhD in Applied Physics from the Colorado School of Mines. He left the accelerator world and entered nuclear non-proliferation in 2007. Since then, he has traveled extensively for DOE's Nuclear Smuggling Detection and Deterrence Program (NSDD) – formerly Second Line of Defense (SLD). His first duties included the development and distribution of software designed for the analysis of RPM data. This early work formed the basis of his work published in the Journal of Environmental Radioactivity (JEnvRad), in 2014. Dr. Livesay has had the opportunity to work on many scientific issues related to the generation of radiation background, both static and transient. In 2012, he co-founded Mason Livesay Scientific and serves to this day as its Chief Scientist.

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