

Quantifying the State of Health of a detection system remotely with LabPulse

A real-time monitoring system for state of health (SoH) information can be an important part of maintaining radiological instrumentation in a laboratory, in the field and in remote locations. This session will discuss the concept of Lab-Pulse which is a live SoH monitoring system for radiological instrumentation to ensure system performance, increase up-time, improve timing of instrument maintenance, watch for faults, reduce time to solve problems, and improve overall system reliability. There are many components of a radiological measurement system including detectors, electronics, software, communications, periodic quality checks, and data storage. All of these play a vital role in having a functional and accurate system. Lab-Pulse monitors SoH data from sensors within these devices and sensors of the surrounding environment that could influence instrument performance. Tracking of SoH data can help ensure all components are functioning within specifications. We will discuss the tools used for a modern SoH monitoring system, and how this data can later be used for advanced analytics to find irregularities, predict potential failures before they occur, schedule maintenance, and improve the design of future instruments. We will also share our vision and what we have learned so far from our system on the instruments we monitor.

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