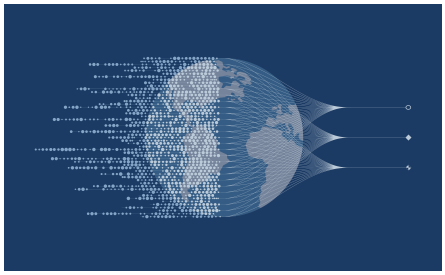

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-Comparison of FirstLook Detector Performance and Anomalies for State of Health Monitoring in Particulate Radionuclide Monitoring Systems

Cadmium Zinc Telluride (CZT) based FirstLook detector systems can provide a near-real time look at the collection of aerosolized radionuclides on the filter media in particulate collecting systems. In cases where high levels or radionuclides are present in air masses, FirstLook detectors could provide station operators the ability to tune the collection of the system to prevent contamination of the system. To distinguish such high-level events from normal fluctuations in the levels of naturally occurring radionuclides, the performance of the FirstLook detector under normal collection settings must be well understood. This study will look at the data collected from several FirstLook detectors installed in both RASA and Manual radioaerosol collection systems. Comparing the FirstLook data across several systems, as well as comparing to the HPGe measurements for filters, will set the groundwork for understanding expected background signals and potential anomalous signatures associated with the systems' state of health.

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