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The detection of ionizing radiation is a little over 100 years old, dating from the first observation of natural radioactivity. Today, radiation detection plays a key role in diverse fields from medicine to defense to basic science. For homeland security, countries around the world are deploying passive radiation detection instrumentation to interdict the illegal shipment of radioactive material crossing international borders at ports of entry. These efforts include deployments in the United States and several European and Asian countries by governments and international agencies. Safeguards are activities carried out by national and international agencies to assure that nuclear material is secure and not diverted for clandestine use. Administered by the International Atomic Energy Agency, international safeguards serve to monitor nuclear activities under the Non-Proliferation Treaty and are the primary vehicle for verifying compliance with peaceful use and nuclear nonproliferation undertakings. For safeguards, radiation detection is used to assure accountancy for nuclear materials to protect us from the illicit production and use of nuclear weapons. This talk will discuss some of the aspects of radiation detection applied to safeguards and our experience with radiation detection interdiction for national security.

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