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Progress in Nuclear Detection

VAYL OXFORD, Director, Domestic Nuclear Detection Office, Transformational R&D Directorate, Department of Homeland Security

The Domestic Nuclear Detection Office (DNDO) has been tasked by the Department of Homeland Security to ensure the United States remains safe from terrorist attacks using a nuclear or radiological device. To this end, the DNDO has developed, and continues to enhance, the global nuclear detection architecture and improve the domestic system used to detect and report attempts to illicitly import or transport a nuclear device or fissile or radiological material. This talk summarizes the DNDO's technology development strategy and highlights its near term and long term research and development activities to enhance the domestic nuclear detection system. Technologies discussed will include examples across the entire development cycle including spectroscopic portals, dual energy radiography, Compton imagers, nanocomposite scintillators, photofission, and nuclear resonance fluorescence.