Better airport security scanner developed

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U.S. government scientists say they are developing a "universal point detection system" -- a three-in-one airport security scanner.

The machine devised by George Farquar and colleagues at the Lawrence Livermore National Laboratory simultaneously screens airline passengers and baggage for explosive, as well as chemical and biological, threats.

The device uses a technology called single-particle aerosol mass spectrometry, or SPAMS, that has already been successful in detecting chemical and biological agents. The new research expands the technology's capabilities to include several kinds of explosives.

The researchers say their device has the potential to detect the one dust-speck-sized particle of explosive residue weighing 1 trillionth of a gram on an individual's clothing or baggage.

"SPAMS is a sensitive, specific, reliable option for airport and baggage screening," the scientists said. "The ability of the SPAMS system to determine the identity of a single particle is a valuable asset when the target analyte is dangerous in small quantities or has no legal reason for being present in an environment."

The research is to be detailed in the March 15 issue of the journal *Analytical Chemistry*.