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Airport Security to Get New Scanning Device that Detects Shoe Bombs

October 20, 2010, By Alex Ion

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Most people traveling by air, hate taking their shoes off at the airport [security](#) line. The real reason you're asked to do so is for your [safety](#), because triacetone triperoxide (or TATP) is a very hard-to-detect explosive usually used to create ... you guessed ... a shoe bomb. And while new [technology](#) advancements just made it easier for TATP to be detected, thanks to researchers at the University of Illinois, the bad news is you'll still have to take off your footwear next time you hop on a flight.



According to the people at the University of Illinois, a colorimetric sensor array that looks for color in the molecular structure of things is more effective compared to chemical scanners that usually watch out for the substance to absorb ultraviolet light or fluoresce or readily ionize. The new [scanners](#) are inexpensive, easy and very fast to use.

EurekaAlert explains the process:

“Kenneth Suslick, the Schmidt Professor of Chemistry at the U. of I., and postdoctoral researcher Hengwei Lin have developed a colorimetric sensor array that can quantitatively detect even very low levels of TATP vapor – down to a mere 2 parts per billion. They wrote about their findings in an article published in the Journal of the American Chemical Society.”

“To create the sensor array, the researchers [print](#) a series of 16 tiny colored dots – each a different pigment – on an inert plastic film. A solid acid catalyst breaks down TATP into detectable components that cause the pigments to change color, like litmus paper.”

“Each pigment changes colors depending on the concentration of TATP in the air. The array is digitally imaged with an ordinary [flatbed scanner](#) or an inexpensive [electronic camera](#) before and after exposure to the air.”

Too bad we still have to take our shoes off, eh?

Source: [EurekaAlert](#)

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