

The advanced spectroscopic portal (ASP) system promises to dramatically lower the occurrence of “nuisance” radiation alarms triggered by cargo at US ports, compared with the existing radiation portal monitoring (RPM) systems. According to Vayl Oxford, director of the Domestic Nuclear Detection Office (DNDO) at DHS, between 400 and 500 false alarms occur each day at the Los Angeles–Long Beach port alone, and 200 000 are tripped annually at all US ports of entry. Another 40 000 alarms are set off at US land border crossings each year.

Oxford told the House Committee on Science and Technology that the ASP should bring the number of alarms down to between 20 and 25 per day at Los Angeles. Field tests of the ASP at the New York Container Terminal also indicated a factor of 10 reduction in nuisance alarms that require secondary inspections. The ASP employs gamma and neutron detectors to identify the specific radiation spectrum emitted by the inspected material.

An independent review team commissioned last year by DHS Secretary Michael Chertoff raised questions about the adequacy of the tests the ASP has undergone; that team supported

some of the contentions of a more critical Government Accountability Office review of the DNDO’s testing program. The independent review team’s report, delivered to Congress on 20 February, agreed with the GAO that the tests were not designed to assess the range of ASP system performance and said that test results and measures of effectiveness weren’t properly linked to operational outcomes, so it was difficult to develop conclusions from the results.

Biased?

The GAO had accused the DNDO of using “biased test methods that enhanced the test performance of the ASPs.” GAO officials told a House subcommittee last fall that the agency had conducted numerous preliminary runs of almost all the materials and combinations of materials that were used in the formal tests and then allowed its ASP contractors to collect test data and adjust their systems to identify those materials.

Further, according to the GAO, the tests didn’t use sufficient amounts of masking materials that could be used to shield radioactive materials. When that concern was raised, the DNDO declined to modify its test criteria for fear



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MoMA show explores science and design

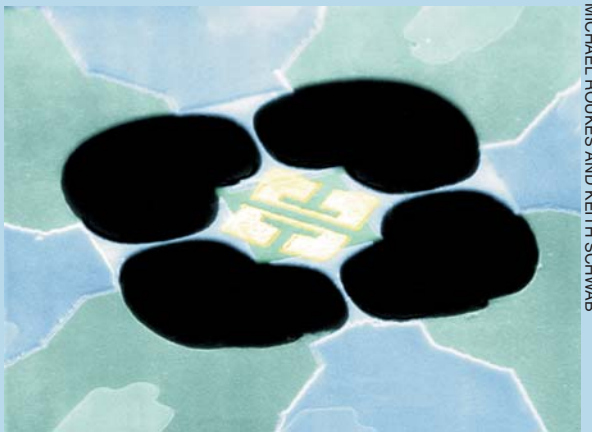
“I was looking at designers talking to scientists, and I realized that the computer has made the membrane between design and science and technology much more permeable,” says Paola Antonelli, curator for “Design and the Elastic Mind,” an exhibition at the Museum of Modern Art in New York City.

Among the exhibition’s more than 200 objects, installations, and projects is the scanning electron micrograph shown here. It shows the device that physicists Keith Schwab and Michael Roukes, then both of Caltech, used in 1999 to demonstrate quantized thermal transport (see *PHYSICS TODAY*, June 2000, page 17). Other scientific and engineering work is also featured in the exhibition. “I see a bunch of strange technology,” Schwab, who is now at Cornell University, says of the exhibition. “The artists have this conversation that is hard for me to understand.”

“People have to compute huge amounts of information every day, and we change from the individual scale to getting online and connecting to the whole world,” explains Antonelli. “That’s where the idea of elasticity came from—our minds today have to develop elastic muscles.” Using scientific advances, designers—artists, architects, fashion designers, and others—are the ones who create objects that help us take advantage of our capacity to adapt.”

The exhibition runs through 12 May; see also <http://www.moma.org/exhibitions/2008/elasticmind>.

Toni Feder



MICHAEL ROUKES AND KEITH SCHWAB