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Novel Magnetic Sensors and Techniques for Security Applications

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Another effort in this field has involved scientists from Latvia, Israel, Poland, Russia and the United States of America. Beginning in June 2011, these scientists have cooperated to construct a miniature, cheap, robust magnetic sensor that could be extremely useful for a wide range of applications ranging from medicine to public safety. Such magnetic sensors could form the base for heart and brain scanners and also form the base for detecting bombs in airports, either by detecting their magnetic signature, or by the sensing, through nuclear magnetic resonance methods, of trace amounts of chemicals. In the latter mode, these sensors can also help in the detection of chemical or biological hazards. Another example for a possible use of such sensors would be to detect structural damage (e.g. micro cracks) in metallic structures such as jet engine blades or bridges after an earthquake.

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