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**Homeland Security, Medical, Pharmaceutical and Non-destructive Testing Applications of Terahertz
Radiation**
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The terahertz region of the electromagnetic spectrum (300GHz-10THz) spans the region between radio and light. Recent advances in terahertz source, detector and systems technology are enabling new applications across a number of fields, based on both terahertz imaging and spectroscopy. This paper reviews our recent work on the development of practical systems and applications in security screening for the detection of explosives and non-metallic weapons; in medical imaging for cancer detection; as well as applications in non-destructive testing and the pharmaceutical industry.