64
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Abstract:The US Army Research Office is a main driver of all terahertz-related defense technologies, according to Dwight Woolard of the US Army Research Laboratory in Research Triangle Park, N.C. As far as researchers in the field are concerned, the terahertz range runs from 300 GHz to as high as 10 THz. The spectral territory beyond that is largely unexplored until one gets closer to microwave frequencies. Making an explosive may not actually resemble cooking in the kitchen, but conceptually one ends up with something akin to a meatloaf. As with the chunks of hamburger and breading that make the meal, explosives such as C-4 and RDX are composed of a mash of volatile chemicals and binders. The most important terahertz application is standoff detection of concealed weapons and identification of explosives. At the NPS, work on future terahertz sensors includes the development of thermal detectors based on microbolometers and on bimaterial pixels.
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