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Title:Nano 'cupcakes' may open door to new applications of THz radiation

Authors:Comerford, Richard (0)

Corresponding author:Comerford, R.

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Abstract:Researchers at the National Institute of Standards and Technology (NIST), US, have discovered that that dense arrays of vertically aligned carbon nanotube arrays (VANTA) can absorb all light of long wavelengths. The researchers have found that the VANTAs can be potentially used as coatings for prototype detectors intended to measure terahertz laser power. The NIST researchers have also found that VANTA absorbs and releases heat quickly as compared with other black coatings. They are using the VANTA to coat a prototype thermopile that will be used in a measurement system that is being developed by the research institute. The system will consist of a terahertz laser designed for routine measurements and the thermopile or detector to measure the laser's power, producing a voltage proportional to the energy when the thermopile is heated by the laser.

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