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Title

Perspectives on Nanotechnology for RF and Terahertz Electronics

Source

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Abstract

Nanotechnology is key to the 21st Century, involving all aspects of nanoscale science and technology and generating a paradigm shift in diverse areas of physics, chemistry, electronics, materials, engineering, and even medicine and biology, as a result of its interdisciplinary nature. RF and terahertz electronics are among the fastest growing areas as a result of the discovery, fabrication, and investigation of nanomaterials, in particular carbon nanotubes, graphenes, and compound semiconductors. These advances in nanotechnology have led to the development of nano RF or terahertz devices, which are capable of transcending conventional devices in their compactness, efficiency, performance, and operating frequency. This paper sets out the evolution of nanotechnology in RF and terahertz electronics in which a challenge awaits for the microwave science and engineering research community. (27 References).