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Title:State of the art and future of electronic sources at terahertz frequencies
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Abstract:A review is presented of the state of the art of electronic sources based on semiconductor devices that have either demonstrated substantial amounts of output power or have a strong potential of producing significant output powers at frequencies above 300GHz. Both fundamental sources and harmonic power generation using varactor or varistor diodes are discussed. The key devices are Schottky diodes, heterojunction barrier varactors, heterojunction bipolar transistors, high-electron mobility transistors, resonant tunnelling diodes, tunnel-injection transit-time devices, Gunn devices, and superlattice electron devices.
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