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标题: Operation of resonant-tunnelling-diode oscillators beyond tunnel-lifetime limit at 564 GHz
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摘要: We present resonant-tunnelling-diode (RTD) oscillators, which are operating at frequencies up to 564 GHz. Due to heavy doping of the collector side of our diodes, the oscillators are operating beyond the tunnel-lifetime (tau) and relaxation-time (tau(rel)) limits of RTDs. At 564 GHz we achieve omega tau approximate to 1.2 and omega tau(rel) approximate to 2.6, the highest previously reported value of omega tau at frequencies > 150 GHz was approximate to 0.6. Our study indicates that operating frequencies of RTD oscillators could be significantly increased and RTDs should be capable of operating at frequencies of several THz. Copyright (C) EPLA, 2012
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