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Title

Terahertz Radiation Emission by Hot Electrons from AlGaN/GaN Heterostructure

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Abstract

In the present paper we report on the observation and study of intense spontaneous THz emission from modulation-doped AlGaN/GaN heterostructure under conditions of heating of two-dimensional electron gas in lateral electric field. The experimental results are compared with the model of blackbody-like thermal emission of hot 2D electrons. Complementary transport measurements and theoretical simulation were carried out to determine the dependence of effective electron temperature on electric field. The role of non-equilibrium optical phonon accumulation is discussed. (11 References).