

Abstract

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CHAOTIC BEHAVIOUR OF IMPATT DIODE OSCILLATORS

Abstract A complete non-linear circuit has been developed for IMPATT diode oscillators. The circuit has been used to design microwave oscillators and to simulate their performance using a non-linear CAD procedure. It is shown that, under certain load conditions, period doubling occurs which leads ultimately to chaotic behaviour. The behaviour has also been verified experimentally and results suggest that IMPATT noise oscillators may be in fact chaotic oscillators.