



Simulation of the Dynamic Transistor Negatrons

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The simulation principles of monolithic microwave dynamic transistor negatrons (circuits with negative differential active resistance) are introduced. The non-linear model has been developed on the basis of non-linear charge model. The equivalent circuit and Volterra series were used for the calculation of dynamic negatrons' parameters. The expressions were obtained, which give the linear relation between current and voltage charges and allow calculating the transferring characteristics. Experimental oscillators are described, which confirm the theoretical predictions.

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