Abstracts

Full wave BIE analysis of travelling waves in unbiased/velocity saturated FET structures with linearly controlled current density

W. Schroeder, W. Prost and I. Wolff. "Full wave BIE analysis of travelling waves in unbiased/velocity saturated FET structures with linearly controlled current density." 1997 MTT-S International Microwave Symposium Digest 1. (1997 Vol. I [MWSYM]): 159-162.

The Hybrid Wave Boundary Integral Equation method is applied to analyze wave propagation along the width of a linearized InGaAs/InAlAs HFET model with accurate description of all geometrical details. Special consideration is given to the influence of operating conditions on propagation characteristics by introducing separate linear models for unbiased operation, channel depletion and velocity saturated operation. Results are given for the gate and drain mode in the passive device and for the mixed mode in presence of a linearly controlled channel current density.

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