

Abstracts

Improved automatic parameter extraction of InP-HBT small-signal equivalent circuits

B. Willen, M. Rohner, I. Schnyder and H. Jackel. "Improved automatic parameter extraction of InP-HBT small-signal equivalent circuits." 2002 Transactions on Microwave Theory and Techniques 50.2 (Feb. 2002 [T-MTT]): 580-583.

An improved automatic extraction technique for determination of the element values of an InP heterojunction-bipolar-transistor small-signal T-model is presented. Numerical optimization is shown to yield reproducible and physically relevant results when using a suitable figure-of-merit. The outcome of such an extraction is displayed for a range of operation points and the resulting bias dependencies of the element values is shown to be in good agreement with theoretical effects. The technique is further used to validate the quality of the extraction itself by showing a significant sensitivity to a deliberate error in the value of each element.

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