Abstracts

Towards a unified method to implement transit-time effects in Pi-topology HBT compact models

M. Rudolph, F. Lenk, R. Doerner and P. Heymann. "Towards a unified method to implement transit-time effects in Pi-topology HBT compact models." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 997-1000 vol.2.

Four different approaches to include transit-time effects into /spl Pi/-topology HBT equivalent circuits are investigated in order to assess their compatibility with the physics-based T topology. The aim is to find an implementation that not only yields an exact model but also has a unique set of parameters in both the /spl Pi/ and T cases. This is of prime importance for reliable parameter extraction and thus the physical significance of the model. It is achieved using a transcapacitance approach. The theoretical considerations are supported by a practical example comparing measured and modeled HBT behaviour.

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