Abstracts

Correction Technique for On-Chip Modulation Response Measurements of Optoelectronic Devices

P. Debie and L. Martens. "Correction Technique for On-Chip Modulation Response Measurements of Optoelectronic Devices." 1995 Transactions on Microwave Theory and Techniques 43.6 (Jun. 1995 [T-MTT]): 1264-1269.

A new and accurate error correction technique for on-chip intensity modulation response measurements of high-frequency optoelectronic devices is presented. Mathematical expressions for the different sources of errors that exist in the measurement system are derived. The new correction technique applied to the modulation response measurement of a strained quantum well laser diode shows excellent agreement with the theoretically expected result. Simulation results for a small-signal circuit model of the laser diode show excellent agreement with the measured input reflection coefficient (S/sub 11/ and the modulation response S/sub 21/. With the corrected modulation response measurement, more accurate parameters for this model are extracted.

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