Abstracts

Statistical Interpolation of FET Data Base Measurements

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This work is the result of research into valid and compact statistical FET models. This paper presents a statistical interpolation technique which extends the Truth Model proposed by Purviance and Meehan in [6]. The Truth Model proposes to simply use samples from a FET measurement data base when performing statistical analysis and design of circuits. The statistical interpolation technique presented here multiplies the number of points within a statistical data base by interpolating among the measurements in a statistically valid manner. It lends itself easily to software implementation, and gives results better than other simulation models now available. We have developed and validated the statistical interpolation technique using 179 Galium Arsenide FETs supplied by TriQuint Semiconductor Inc.. We show that the marginal statistics and the correlation matrix are preserved for the simulated samples.

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