Abstracts

Statistical Performance Sensitivity - A Valuable Measure for Manufacturing Oriented CAD

J. Purviance and M. Meehan. "Statistical Performance Sensitivity - A Valuable Measure for Manufacturing Oriented CAD." 1992 MTT-S International Microwave Symposium Digest 92.2 (1992 Vol. II [MWSYM]): 893-896.

This paper delineates the random and deterministic components of the manufacturing and design process. Design for manufacture includes determining the deterministic parameter vector, P/sub o/, such that some manufactured unit performance statistic, like E{G(P/sub o/+DeltaP)}, or Yield(P/sub o/, is controlled or optimized, where G(·) is a nonlinear function describing performance. The statistical sensitivities are an extension of classic sensitivities, applied to the general statistical outcome of the manufacturing process, and we develop an efficient way to calculate them, using Monte Carlo estimation.

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