Abstracts

Microwave Instrumentation: An Historical Perspective

S.F. Adam. "Microwave Instrumentation: An Historical Perspective." 1984 Transactions on Microwave Theory and Techniques 32.9 (Sep. 1984 [T-MTT] (Special Centennial Issue Historical Perspectives of Microwave Technology)): 1157-1161.

Metrology is the science of measurements. When one is making a measurement, one is comparing an unknown quantity of some measure with a known (calibrated) quantity of the same measure. The equipment being used in electronics, especially in microwaves, is called instrumentation. When making measurements, using the appropriate instrumentation, the basic rules of metrology have to be observed. It is not enough to gather the data by performing the test; an evaluation of the errors involved also has to be determined. Resolution, readability, repeatability, and absolute calibration accuracy are all important factors in these considerations. It was exactly the evolution of these factors (the need for better accuracy and more data points by systems engineers) which fueled this process. When the measurement techniques fulfilled the requirements of systems designers, better, more sophisticated systems were possible to invent, which in turn posed the need for more improvements in instrumentation.

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