

MULTI-VARIABLE REGRESSION FOR METROLOGY

ABSTRACT

A method for assessing metrology tool accuracy is described. Multi-variable regression is used to define the accuracy of a metrology tool such that the interaction between different measurement parameters is taken into account. A metrology tool under test (MTUT) and a reference metrology tool (RMT) are used to measure a set of test profiles. The MTUT measures the test profiles to generate a MTUT data set for a first measurement parameter. The RMT measures the test profiles to generate RMT data sets for the first measurement parameter, and at least a second measurement parameter. Multi-variable regression is then performed to generate a best-fit plane for the data sets. The coefficient of determination (R^2 value) represents the accuracy index of the MTUT.

Fig. 5