Geometry Analysis of Coordinate Measuring Machines

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ABSTRACT

Coordinate measuring machines have been predominatly used to generate measurement points for a surface .The measurement data are analyzed to yield geometric tolerance information for the surface features. In virtue of utilizing coordinate measuring machines, artificial operation is usually used. Therefore, the operating instructions are determined by personal experience. with different measurement staffs. The measurement results lead to inaccuracy casily. This study utilized average discrepancy rate, specification discrepancy rate and synthetic method to choose measuring points instead of personal experience. Finally, the Response Surface Method is used to optimize measuring systems. With Gage Repeatability and Reproducibility Analysis of the geometry tolerance.

Keywords : Coordinate Measuring Machines ; Geometry Tolerance

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