

METHODS OF INSPECTING A 3D OBJECT USING 2D IMAGE PROCESSING

ABSTRACT

The present disclosure provides a system and method to convert three-dimensional data into a two-dimensional height displacement map and extract the three-dimensional features and dimensions of a three-dimensional object using a two-dimensional image processing technique. An illumination source of the system scans across the workspace using a line laser and generates a two-dimensional height displacement map of the workspace. The individual pixel location represents an actual workspace sampled location. The pixel gray scale intensity represents the Z displacement height at the pixel location. A processing device processes the features and dimensions within two-dimensional image as a gray scale using two-dimensional image processing such as pattern match, blob, convolution and edge detection.

[FIG. 2]