# SYSTEM AND METHOD FOR INSPECTING A WAFER


## Abstract

A method for inspecting a wafer. The method comprises a training process for creating reference images. The training process comprises capturing a number of images of a first wafer of unknown quality, each of the number of images of the first wafer being captured at a predetermined contrast illumination and each of the number of images of the first wafer comprising a plurality of pixels. The training process also comprises determining a plurality of reference intensities for each of the plurality of pixels of each of the number of images of the first wafer, calculating a plurality of statistical parameters for the plurality of reference intensities of each of the plurality of pixels of each of the number of images of the first wafer, and selecting a plurality of reference images from the plurality of images of the first wafer based on the calculated plurality of statistical parameters. The method for inspecting the wafer further comprises capturing an image of a second wafer, the second wafer being of an unknown quality, selecting a first reference image from the plurality of reference images, and comparing the captured image of the second wafer with the first reference image to thereby determine at least one of presence and type of defect on the second wafer.


**Figure 18**