ABSTRACT

SYSTEM AND METHOD FOR PHOTOEMISSION-BASED DEFECT DETECTION

An IREM image of an IC is obtained. The emission intensity at each emission site is measured/calculated and is compared to reference intensity. The calculated intensity may be plotted against reference intensities. In general, the majority of the plotted intensities would lie in a given range within a straight line. However, for devices that exhibit an abnormal emission, the plot would result in an easily observable deviation from the line. The calculated intensity is used to make a determination of logical "1" or "0" for each device, which is automatically stored together with the corresponding test vector. The calculated logical states are then tabulated and compared against tabulation of reference logical states.

Figure 1