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(54) Title: DEFECT INSPECTION EFFICIENCY IMPROVEMENT WITH IN-SITU STATISTICAL ANALYSIS OF DEFECT DATA DURING INSPECTION

(57) Abstract: A method and system for increasing the efficiency and reducing the time required for defect inspection of microfabricated structures such as semiconductor wafers, masks or reticles for micro-fabrication, flat panel displays, micro-electro-mechanical (MEMs). In one embodiment a method of inspection of micro-fabricated structures is optimized by statistically analyzing defect data during inspection by collecting defect data during inspection, calculating at least one statistic of the defect data, continuing inspection while the at least one statistic is outside a predetermined range and stopping inspection when the at least one statistic is within the predetermined range.