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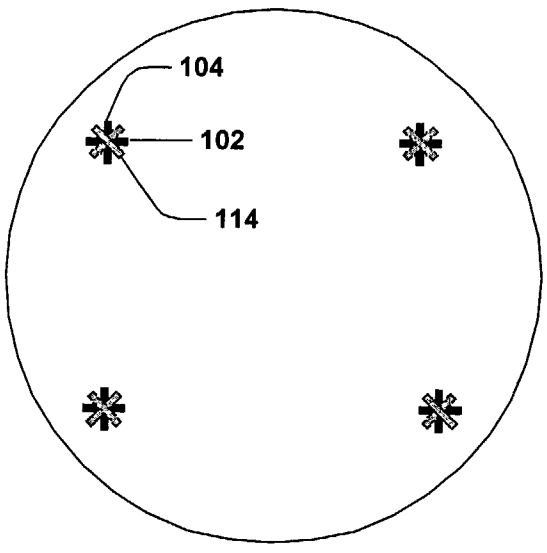
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(54) Title: PATTERN RECOGNITION AND METROLOGY STRUCTURE FOR AN X-INITIATIVE LAYOUT DESIGN



(57) Abstract: The present invention relates to inspection methods and systems utilized to provide a best means for inspection of a wafer (900, 1250). The methods and systems include wafer-to-reticle alignment, layer-to-layer alignment and wafer surface feature inspection. The wafer (900, 1250)-to-reticle (1226) alignment is improved by the addition of diagonal lines (112, 114) to existing alignment marks (102, 104, 210_A, 210_B, 210_C, 210_D) to decrease the intersection size and corresponding area that a desired point can reside. Layer-to-layer alignment is improved in a similar manner by the addition of oblique and/or non-linear line segments to existing overlay targets (330). Also, providing for wafer surface inspection in a multitude of desired diagonal axes allows for more accurate feature measurement.

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