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(54) **Title:** SCANNING OVERLAY METROLOGY USING OVERLAY TARGETS HAVING MULTIPLE SPATIAL FREQUENCIES

(57) **Abstract:** An overlay metrology system may include an illumination source and illumination optics to illuminate an overlay target on a sample with illumination from the illumination source as the sample is in motion with respect to the illumination from the illumination source in accordance with a measurement recipe. The overlay target may include one or more cells, where a single cell is suitable for measurement along a particular direction. Such a cell may include two or more gratings with different pitches. Further, the system may include two or more photodetectors, each configured to capture three diffraction lobes from the two or more grating structures. The system may further include a controller to determine an overlay measurement associated with each cell of the overlay target.

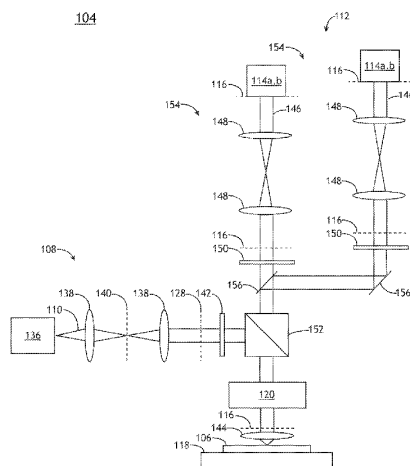


FIG. 1B

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