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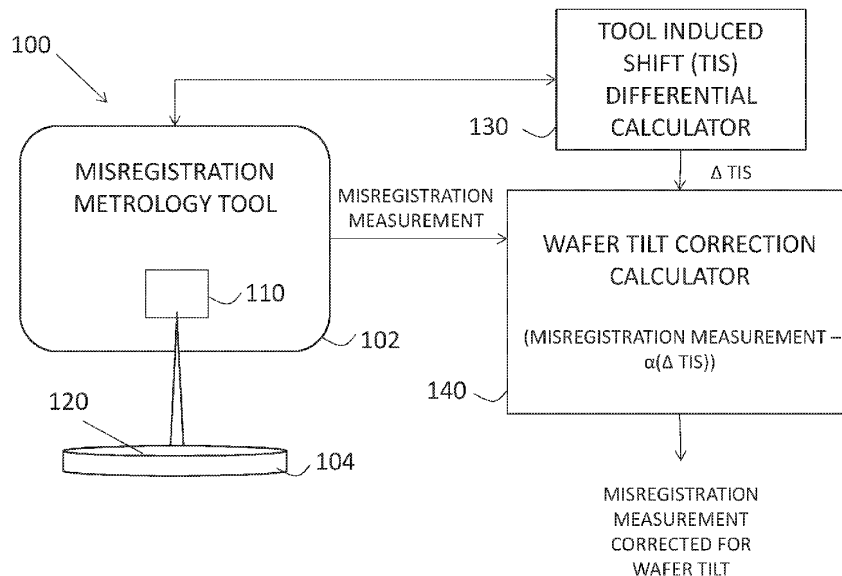


FIG. 1

(57) Abstract: A method for correcting misregistration measurements of a semiconductor wafer for errors therein arising from tilt of the wafer including measuring, for at least one location on a wafer, a difference between a Tool Induced Shift (TIS) of a metrology device in a first illumination arrangement with respect to the wafer wherein a surface of the wafer is generally orthogonally illuminated by an illumination source of the metrology device and a TIS of the metrology device in a second illumination arrangement with respect to the wafer, wherein the surface is obliquely illuminated by the illumination source, and correcting a misregistration measurement measured by the metrology device at the at least one location for errors therein arising from tilt of the wafer at the location by subtracting from the misregistration measurement a weighted value of the difference between the TIS in the first and second illumination arrangements.

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