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(54) Title: SYSTEM AND METHOD FOR PROCESSING SILICON WAFERS

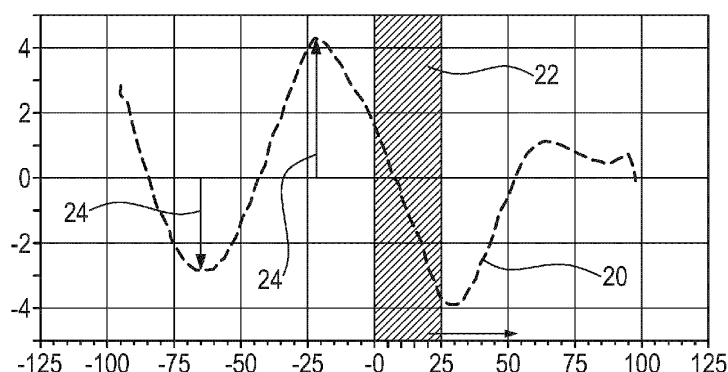


Fig. 2

(57) Abstract: A method for processing a silicon wafer, the method including cutting an ingot to form a wafer, extracting from measured shape data a cross-sectional profile, the cross-sectional profile passing through the center of the wafer and being aligned with a cutting direction of an ingot, interpolating the shape data with a fixed and pre-determined step size, fitting a first second-degree polynomial to the cross-sectional profile, determining a residual profile by subtracting the polynomial from the cross-sectional profile, fitting a second second-degree polynomial to the residual profile using a sliding window of pre-determined width to determine a position, height, and curvature of each peak and valley of the residual profile, determining a waviness parameter based on the position, height, and curvature of each peak and valley of the residual profile, and further processing the wafer based on the waviness parameter and a predetermined waviness threshold.

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