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(54) **Title:** SYSTEMS AND METHODS FOR PROCESSING SEMICONDUCTOR WAFERS USING FRONT-END PROCESSED WAFER GEOMETRY METRICS

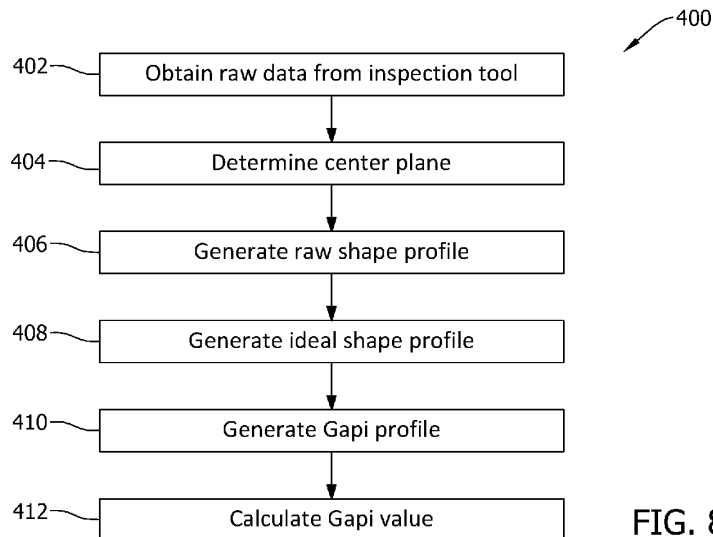


FIG. 8

(57) **Abstract:** A method for processing semiconductor wafers includes obtaining measurement data from a surface of a semiconductor wafer processed by a front-end process tool. The method includes determining a center plane of the wafer based on the measurement data, generating raw shape profiles, and generating ideal shape profiles. The method further includes generating Gapi profiles based on the raw shape profiles and the ideal shape profiles, and calculating a Gapi value of the semiconductor wafer based on the Gapi profiles. The generated Gapi profiles and/or the calculated Gapi value may be used to tune the front-end process tool and/or sort the semiconductor wafer for polishing. Systems include at least a front-end process tool, a flatness measurement tool, and a computing device.

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