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(71) Applicant *(for all designated States except US)*: **LAM RESEARCH CORPORATION** [US/US]; 4650 Cushing Parkway, -, Fremont, California 94538 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **ALLEN-BLANCHETTE, Christine** [US/US]; 4650 Cushing Parkway, -, Fremont, CA 94538 (US). **RODNICK, Matt** [US/US]; 4650 Cushing Parkway, -, Fremont, CA 94538 (US).

(74) Agent: **NGUYEN, Joseph A.**; P.O. Box 700640, -, San Jose, CA 95170 (US).

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(54) Title: SYSTEMS AND METHODS FOR CALIBRATING END EFFECTOR ALIGNMENT USING AT LEAST A LIGHT SOURCE

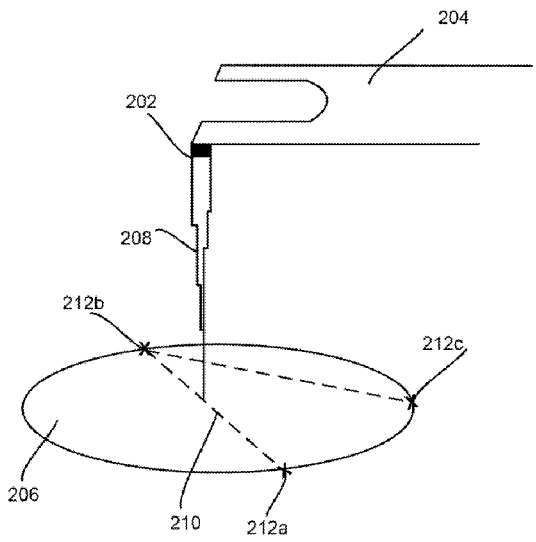


FIG. 2A

(57) Abstract: A method for calibrating alignment of an end effector with respect to a chuck in a plasma processing system is provided. The method including providing a first light beam from the end effector to said chuck. The method including moving the end effector along a predefined calibration path such that the first light beam traverses a surface of the chuck. The method also includes receiving a set of reflected light signals, the set of reflected light signals being generated at least when the surface reflects the first light beam during the moving. The method including analyzing the set of reflected light signals to identify three or more discontinuities. The three or more discontinuities are related to three or more reflected light signals generated when the first light beam encounters an edge of the chuck. The method also including determining three or more coordinate data points based on the three or more discontinuities, the three or more coordinate data points representing three or more points on the edge of the chuck. The method includes determining a center of the chuck based on the three or more coordinate data points.

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