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

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **HOWARD, Bradley, J.** [US/US]; 1400 Oak Vista Way, Pleasanton, CA 94566 (US). **PAPE, Eric** [US/US]; 39975 Cedar Blvd., Unit 135, Newark, CA 94560 (US). **LI, Siwen** [CN/US]; 7190 Galli Court, Apt. 2, San Jose, CA 95129 (US).

(74) Agents: **MCCRACKIN, Ann, M.** et al.; Schwegman, Lundberg & Woessner, P.a., P.O. Box 2938, Minneapolis, MN 55402 (US).

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(54) Title: ELECTRICAL AND OPTICAL SYSTEM AND METHODS FOR MONITORING EROSION OF ELECTROSTATIC CHUCK EDGE BEAD MATERIALS

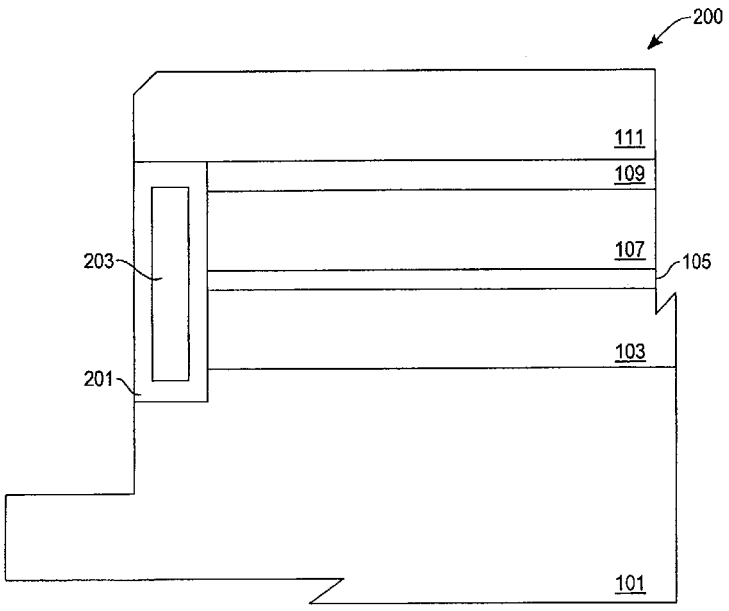


Fig. 2

(57) Abstract: A disclosed device comprises an edge bonding seal configured to be mounted to an edge bead of the electrostatic chuck. The edge bonding seal includes a monitoring layer comprised of a first material configured to either emit a species capable of being optically monitored or having an electrical resistance value capable of being monitored, or both. The edge bonding seal further includes an edge bonding layer configured to be interspersed at least between the monitoring layer and the plasma environment. The edge bonding layer is comprised of a second material susceptible to erosion due to reaction with the plasma environment and configured to expose the monitoring layer to the plasma environment upon sufficient exposure to the plasma environment.

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