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[Continued on next page]

(54) Title: METHODS AND ARRANGEMENT FOR PLASMA DECHUCK OPTIMIZATION BASED ON COUPLING OF PLASMA SIGNALING TO SUBSTRATE POSITION AND POTENTIAL

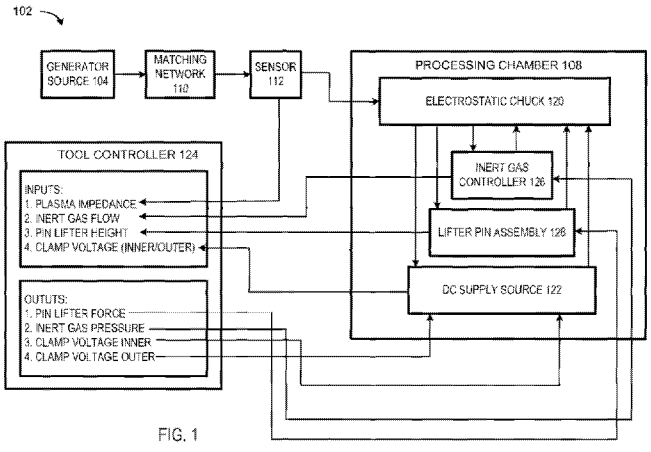


FIG. 1

(57) Abstract: A method for optimizing a dechuck sequence, which includes removing a substrate from a lower electrode. The method includes performing an initial analysis to determine if a first set of electrical characteristic data of a plasma formed during the dechuck sequence traverses a threshold values. If so, turning off the inert gas. The method also includes raising the lifter pins slightly from the lower electrode to move the substrate in an upward direction. The method further includes performing a mechanical and electrical analysis, which includes comparing a first set of mechanical data, which includes an amount of force exerted by the lifter pins, against a threshold value. The mechanical and electrical analysis also includes comparing a second set of electrical characteristic data against a threshold value. If both traverse the respective threshold value, removes the substrate from the lower electrode since a substrate-released event has occurred.

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