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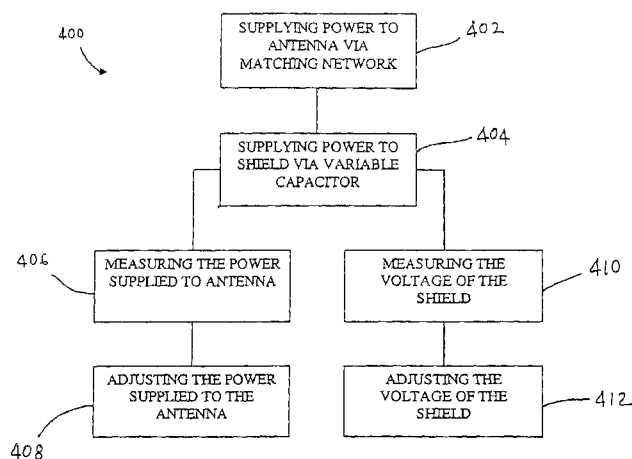
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(54) Title: APPARATUS AND METHOD FOR CONTROLLING THE VOLTAGE APPLIED TO AN ELECTROSTATIC SHIELD USED IN A PLASMA GENERATOR



(57) Abstract: An apparatus for controlling the voltage applied to a shield interposed between an induction coil powered by a power supply via a matching network, and the plasma it generates, comprises a shield, a first feedback circuit, and a second feedback circuit. The power supply powers the shield. The first feedback circuit is connected to the induction coil for controlling the power supply. The second feedback circuit is connected to the shield for controlling the voltage of the shield. Both first and second feedback circuits operate at different frequency ranges. The first feedback circuit further comprises a first controller and a first sensor. The first sensor sends a first signal representing the power supplied to the inductive coil to the first controller. The first controller adjusts the power supply such that the power supplied to the inductor coil is controlled by a first set point. The second feedback circuit further comprises a second sensor, a second controller, and a variable impedance network. The shield is powered via a variable impedance network. The second sensor sends a second signal representative of the voltage of the shield to the second controller. The second controller adjusts the variable impedance network such that the voltage of the shield is controlled by a second set point.



WO 02/084699 A1