

USING MODELING TO DETERMINE WAFER BIAS ASSOCIATED WITH A PLASMA SYSTEM

ABSTRACT

Systems and methods for determining wafer bias are described. One of the methods includes detecting output of a generator to identify a generator output complex voltage and current (V&I). The generator is coupled to an impedance matching circuit and the impedance matching circuit is coupled to an electrostatic chuck (ESC). The method further includes determining from the generator output complex V&I a projected complex V&I at a point along a path between an output of a model of the impedance matching circuit and a model of the ESC. The operation of determining of the projected complex V&I is performed using a model for at least part of the path. The method includes applying the projected complex V&I as an input to a function to map the projected complex V&I to a wafer bias value at the ESC model.

Fig. 1



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