

METHODS AND ARRANGEMENTS FOR PLASMA PROCESSING SYSTEM WITH TUNABLE CAPACITANCE

Abstract

A method for processing a substrate in a plasma processing chamber is provided. The substrate is disposed above a chuck and surrounded by an edge ring. The edge ring is electrically isolated from the chuck. The method includes providing RF power to the chuck. The method also includes providing a tunable capacitance arrangement. The tunable capacitance arrangement is coupled to the edge ring to provide RF coupling to the edge ring, resulting in the edge ring having an edge ring potential. The method further includes generating a plasma within the plasma processing chamber to process the substrate. The substrate is processed while the tunable capacitance arrangement is configured to cause the edge ring potential to be dynamically tunable to a DC potential of the substrate while processing the substrate.

Figure: 3