Abstract

CONFINED PLASMA WITH ADJUSTABLE ELECTRODE AREA RATIO

A plasma reactor (200) comprises a chamber (202), a bottom electrode (204), a top electrode (206), a first set of confinement rings (208), a second set of confinement rings (210), and a ground extension (212). The top and bottom electrodes, the first and second sets of confinement rings, and the ground extension are all enclosed within the chamber. The first set of confinement rings is substantially parallel to the bottom electrode and the top electrode and surrounds a first volume between the bottom electrode and the top electrode. The second set of confinement rings is substantially parallel to the bottom electrode and the top electrode and surrounds a second volume between the bottom electrode and the top electrode. The second volume is at least greater than the first volume. A ground extension is adjacent to and surrounds the bottom electrode. The first set of confinement rings and the second set of confinement rings are capable of being independently raised and lowered to extend into a region above the ground extension.

Fig.2A