Apparatus and Method for Controlling Plasma Density Profile

ABSTRACT

A number of RF power transmission paths are defined to extend from an RF power source through a matching network, through a transmit electrode, through a plasma to a number of return electrodes. A number of tuning elements are respectively disposed within the number of RF power transmission paths. Each tuning element is defined to adjust an amount of RF power to be transmitted through the RF power transmission path within which the tuning element is disposed. A plasma density within a vicinity of a particular RF power transmission path is directly proportional to the amount of RF power transmitted through the particular RF power transmission path. Therefore, adjustment of RF power transmitted through the RF power transmission paths, as afforded by the tuning element, enables control of a plasma density profile across a substrate.

[Fig. 1B]