PLASMA TREATMENT DEVICE, POWER SUPPLY SYSTEM, AND PLASMA TREATMENT METHOD

ABSTRACT

A disclosed plasma processing apparatus includes a chamber, a substrate support in the chamber, a radio frequency power supply, a bias supply, and a controller. The radio frequency power supply is configured to supply source radio frequency power to generate a plasma from a gas in the chamber. The bias supply is configured to supply an electrical bias to the substrate support to attract ions from the plasma to a substrate on the substrate support. The controller is configured to control the radio frequency power supply and the bias supply to, in a plasma processing period, supply the source radio frequency power and the electrical bias continuously and simultaneously, and set a power level of the source radio frequency power to 3 kW or less, a bias frequency to less than 400 kHz, and a voltage amplitude of the electrical bias to 3 kV or more.

Fig. 2