which performs a plasma processing by supplying a source power to a plasma generator and supplying a bias power to a stage that places a processing target substrate thereon. The control program causes a computer to execute a process including: monitoring a peak-to-peak voltage value of the source power or the bias power; and correcting the source power supplied to the plasma generator and the bias power supplied to the stage according to a fluctuation of the peak-to-peak voltage value, to make the monitored peak-to-peak voltage value approach an initial set value while fixing a ratio of the source power and the bias power.

[0004a] In one aspect, there is provided a control method comprising providing a plasma processing apparatus which performs a plasma processing by supplying a source power to a plasma generation source and supplying a bias power to a stage that places a processing target substrate thereon; monitoring a peak-to-peak voltage value of the source power or the bias power; and correcting the source power supplied to the plasma generator and the bias power supplied to the stage according to a fluctuation of the peak-to-peak voltage value, to make the monitored peak-to-peak voltage value approach an initial set value while fixing a ratio of the source power and the bias power.

[0004b] In another aspect, the present disclosure provides a control method comprising providing a plasma processing apparatus which performs a plasma processing by supplying a source power to a plasma generator and applying a pulse voltage to a stage that places a processing target substrate thereon; monitoring a current value of the pulse voltage; and correcting the source power supplied to the plasma generator and the pulse voltage applied to the stage according to a fluctuation of the current value, to make the monitored current value of the pulse voltage approach an initial set value while fixing a ratio of the source power and the pulse voltage.

[0004c] In yet another aspect, there is provided a plasma generating apparatus comprising a stage configured to place a processing target substrate thereon; an edge ring disposed around the stage; a first power supply configured to supply a source power to a plasma generator; a second power supply configured to supply a bias power to the stage; a third power supply configured to apply a DC voltage to the edge ring; and a controller configured to monitor a peak-to-peak voltage value of the source power or the bias power; correct the source power supplied by the first power supply and the bias power supplied by the second power supply according to a fluctuation of the peak-to-peak voltage value, to make the monitored peak-to-peak voltage value approach an initial set value while fixing a ratio of the source power and the bias power; and control operations of the first power supply and the second power supply to supply the corrected source power and bias power to the plasma generator and the stage, respectively.

[0004d] In a further aspect, there is provided a plasma generating apparatus comprising a stage configured to place a processing target substrate thereon; an edge ring disposed around the stage; a first power supply configured to supply a source power to a plasma generator; a second power supply configured to supply a pulse voltage to the stage; a third power supply configured to apply a DC voltage to the edge ring; and a controller configured to monitor a current value of the pulse voltage; correct the source power supplied by the first power supply and the pulse voltage applied by the second power supply according to a fluctuation of the current value, to make the monitored current value of the pulse voltage approach an initial set value while fixing a ratio of the source power and the pulse voltage; and control operations of the first power supply and the second power supply to supply the corrected source power to the plasma generator, thereby applying the corrected pulse voltage to the stage.

[0005] The foregoing summary is illustrative only and is not intended to be in any way limiting. In addition to the illustrative aspects, embodiments, and features described above, further aspects, embodiments, and features will become apparent by reference to the drawings and the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 is a view illustrating an example of a configuration of a capacitively coupled plasma processing apparatus.

[0007] FIG. 2A is a view illustrating a change of tilting caused from a wear of an edge ring.

[0008] FIG. 2B is a view illustrating a change of tilting caused from a wear of an edge ring.

[0009] FIG. 3 is a graph illustrating a method of correcting FRDC_V.

[0010] FIG. 4 is a graph illustrating an example of a correction of LF_pw.

[0011] FIG. 5 is a graph illustrating an example of a correction of HF_pw.

[0012] FIG. 6 is a flowchart illustrating a procedure for executing a correction process according to Embodiment 1.